HEALTH AND THE STATE IN INDIA

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DECLARATION

I hereby declare that this thesis has been composed by myself and that the work is my own. None of it has been submitted for any other degree or other professional qualification.

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(Roger Jeffery)

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ABSTRACT

This thesis concerns the development of health policy-making in India, in the context of theories of the State in under-developed countries. In order better to understand the structures and processes which characterise health policy and implementation after Independence in 1947, a historical approach is used. The thesis falls into two parts. Part A (Chapters 1-4) deals with health status and health policy under British rule, and Part B (Chapters 5-11) covers the same topics for Independent India.

Both Parts start by locating health policy in the context of levels, differentials and changes in morbidity and mortality, and looking at some of the 'non-health policy' factors which might contribute to the decline in basic levels of mortality since 1881. Under the British, this relates particularly to famine relief policies, accompanied by commercialisation of agriculture and trade in food products; for Independent India, the role of welfare policies which provide a 'floor' to consumption seems important. In neither period can rising real incomes in themselves provide a satisfactory explanation for mortality decline. The likely role of health services is considered in the following chapters, though the focus of this account is on the processes by which health policies emerge, rather than with their outcomes.

Part A addresses a number of arguments which claim that the effect of Imperialist rule was to destroy local healing traditions (Chapter 2), and that Imperialist health services were narrowly conceived in terms of social control, in the provision of services for the Army and the protection of the health of the ruling elite (Chapters 3 and 4). Both arguments are criticised for being too partial. It is suggested that Imperialist interests did not totally dominate health activities, but nonetheless, the impact of services was restricted by their urban, curative focus.

Part B looks closely at the evidence for the pattern of health expenditures by the Central and State Governments since 1947, and suggests that there has been more space for preventive and public health measures than has usually been recognised (Chapter 6). Chapter 7 explores the national context of policy-making, noting the relatively weak role of the Indian Medical Association, and Chapter 8 provides an international focus, looking at pharmaceuticals companies, migration and foreign aid. Chapter 9 takes a close look at policy regarding medical and paramedical personnel, and Chapter 10 discusses the structures and processes of the Government medical bureaucracy. The Conclusion (Chapter 11) considers the 'new approaches' to health provisions, in the private sector and in Government, and suggests that their impact will be much less than has been claimed.

In general, it is argued that populist health policies have increasingly replaced 'top-down socialist' ones. Neither have been particularly successful, because they have been permeated by clientelist political institutions. But an adequate account of these policies must give due weight to their achievements as well as their limitations.

TIMELINE

DATE	GENERAL HISTORY	PUBLIC HEALTH HISTORY
1802-4		Famine in Bombay, Madras & N.I
1807		Madras famine
1812-4		Madras and Bombay famine
1822		Founding of Native Medical Institution, Calcutta.
1823		Madras famine
1832-3		Famine in Guntur area, Madras
1835		Closure of Native Medical Instn.
		Founding of Calcutta Medical Coll.
1837-8		Famine in Northern India
1849	Annexation of Punjab	
1856	Annexation of Oudh	
1857	Mutiny/Sepoy Revolt	Creation of Indian Universities
1858	End of Company Rule	
1860		Famine in North-West, Punjab
1862-3		Royal Commission on Sanitary Conditions of the Army in India
1866		Orissa famine
1873-4		Bihar and Bengal famine
1876-8		Madras famine
1882	Local self-Government Act	
1896		Plague returns to Bombay
1896-8		North India famine
1899-1900		Central India famine
1906	Partition of Bengal	
1907	Morley-Minto Reforms	
1919	Montagu-Chelmsford Reforms	
1919-20		Influenza epidemic
1935	Government of India Act	
1938		National Planning Committee
1942	Quit India Movement	
1943		Bengal famine
1943-6		Bhore Committee

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1947	Independence	Partition and mass migrations
1950	Planning Commission established	
1951-56	First Plan Period	
1953-58		National Malaria Control Programme
1956-61	Second Plan Period	
1958-70		National Malaria Eradication Progr.
1961-66	Third Plan Period	
1962	War with China	
1965	War with Pakistan	
1966-69	Annual Plans Period	
1969-74	Fourth Plan Period	
1974-79	Fifth Plan Period	
1975-77	'Emergency'	
1977	Janata wins elections	Community Health Workers scheme introduced
1980	Mrs Gandhi wins elections	
1979-80	Annual Plan only	
1980-85	Sixth Plan Period	

GLOSSARY

Ayurveda 'The science of life' - the system of high-culture medicine looking to Sanskrit sources for its origins.

dai The Hindi term for a traditional birth attendant.

hakim, hakeem A practitioner of Yunan-i Tibb (see below).

Siddha A Tamil variant of Ayurvedic medicine.

Yunan-i Tibb 'Greek medicine' - the system of high-culture medicine introduced to India by Muslim invaders and drawing its inspiration from Greek authors and Avicenna; often transliterated as Unani medicine.

vaid, vaidya A practitioner of Ayurvedic medicine

ABBREVIATIONS

A.I.I.M.S. All-India Institute of Medical Sciences, New Delhi.
G.O.I. Government of India
G.O.O. Government of Orissa
I.A.M.S. Indian Academy of Medical Sciences
I.M.A. Indian Medical Association
I.M.C. Indian Medical Council (1933-56)
I.M.G. Indian Medical Gazette
I.M.S. Indian Medical Service
I.O.L. India Office Library
M.C.I. Medical Council of India (1956 onwards)
N.A.I. National Archives of India

C.D.R. Crude Death Rate (deaths per 1000 population)
I.M.R. Infant Mortality Rate (deaths of children before their first birthday, per 1000 live-births in the same period)

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INTRODUCTION

The health services of India deserve extended treatment, for a number of good reasons. To begin with, they affect the lives of some 700 million people in one of the world's poorest countries, and this by itself would make it a worthy subject for study. But in addition, the literature on comparative health systems, or on the health systems of individual countries or regions, surprisingly does not include a good account of the Indian health system.

A comparison with China is instructive. Far less is known about the detailed patterns of health care provision or its development in China than in India. This has stimulated almost every visitor to write an article describing what was shown to him/her, and a number of books surveying what is known and placing it into a perspective for a wider audience (e.g. Bowers,[ed.] 1973; Quinn [ed.], 1972; Sidel, 1972). There are also several more analytic accounts, of which those by Lampton (1977; 1974) are the most detailed (see also Hillier and Jewell, 1983). In addition, of course, China is seen as a success story, with potential relevance for the rest of the world, whereas India is regarded as a failure. Thus, in the appendixes to the W.H.O. and U.N.I.C.E.F. books outlining alternative approaches to meeting health care needs, there is a case study on the Chinese system as a whole, whereas from India there are accounts of a small voluntary-sector project in Maharashtra and of Ayurvedic medicine (Newell [ed.], 1975; Djukanovic and Mach, 1975).

Furthermore, several of the acounts which do exist are severely flawed. Jaggi's many-volumed history of medicine in India is little more than a compilation of reports and accounts, with no serious attempt to put these into a broader perspective (1972-6). On the other hand, Elling (1979) contains a short section on India which is so concerned with the context that very little emerges about the health services themselves. I would

argue that most accounts of health and health services in India fall into one of two categories:

- descriptive/uncritical accounts, essentially within the 'modernisation' tradition, seeing health services moving towards a Western model through technological transfer and culture contact (e.g. Dutt, 1963); or

- radical/Marxist critiques, seeing health services being warped and made irrelevant (if not positively harmful) because of the imperialistic/dependency relationships within which technologies are transferred and indigenous elites retain power to control changes in their own interests (e.g. Doyal, 1978).

Here I will argue that the former approach, when applied to India, is insufficiently critical but that the latter approach is too sweeping (ignoring variations between countries), too deterministic in simple economistic ways, and incapable of theorising change. In these pages, then, my concern will be first to provide some empirical evidence about changes in health services in India, and secondly to analyse the significance and causes of these patterns while avoiding the two extremes described above - that is, neither to exclude a political economy of health care services nor to make it the sole element in the account.

Of course, this simple distinction between 'facts' and 'theory' should not be read as a claim that the 'facts' are free from theoretical presuppositions. I have made a number of decisions which have guided what material to look for, and to present, and in the rest of this Introduction I shall spell out some of these theoretical concerns. To begin with, I decided to divide this work into two parts, one dealing with the period from the beginnings of health policy during British rule (particularly from the 1830's onwards) up to Independence, and the second looking at aspects of health policy after 1947. A second decision

was to focus on the State: to use the recent discussions on the nature of the State in 'developing societies' to provide a framework for the material I am considering. A third decision concerns the treatment of relationships between health services and 'health'. I have taken the view that for most purposes it is possible to 'bracket off' the issue, and not to try to assess whether particular health services improve the health of the population or not. Thus I have considered changes in 'health' as results of wider social changes (and not only the systematic attempts to heal or cure, or protect people from illness and disease), and have argued that it is worthwhile to investigate health policy in itself, rather than trying too hard to distinguish the effective from the dignified. Other decisions will become clearer as the material unfolds, but these three require some discussion here.

The first two decisions are interrelated. I have split the analysis into two historical sections - 1800 to 1947, and 1947 to the present. The starting point is largely set by my interest in health policy-making: there are few sources, and little evidence of such policy concerns prior to 1800. However, by taking this starting point it could be argued that I am too 'generous' to Imperialism, effectively ignoring the period of conquest and rapacious plunder. I will return to this point in the conclusion to Part A. The decision to break the account at 1947 is not just because the historical sources for the two periods are very different, nor just because it is traditional to divide modern histories of India at this point - the point at which two successor countries (India and Pakistan) replaced direct British rule for 3/4 of the population, and indirect rule through the Native States for the rest. It is also because the end of British rule does have some significance for health service provision, and this significance has to be assessed in part through an understanding of the nature of the pre- and post-Independence State. The division also reflects something of the natural history of my research into this topic, since I began by looking

at post-Independence policy and have come to believe that it is impossible to understand what happened after 1947 without locating it in its historical roots.

Many discussions of the State in modern India are derived from the debates within Marxism on the character of capitalist States. In particular, they try to deal with the problems posed for Marxism by the different kinds of capitalist States, and the uncertain tendencies of these States, towards Fascism or not, or towards the conditions necessary for socialist transformations. As Urry (1980) has recently argued, much discussion of the State by Marxists has tended to be reductionist and attempts to deal with the State solely in terms of the class dominance of the bourgeoisie - in Marx's own phrase, the State as the executive committee for managing their common affairs. The difficulties with this position are enormous. It is clear that politics and ideology are not determined in a close way by the demands of capital; that social institutions (such as health services) vary quite dramatically between different capitalist States; and that the 'needs of capital' are rarely unambiguous, self-evident or followed with relentless logic. Althusser and others responded to this kind of problem by theorising degrees of autonomy from the economic base for political and ideological 'instances' (levels); an alternative response (such as that of E.P. Thompson) is to return to class struggle and the conscious aims of historical actors as the central element in an account (Althusser, 1981; Thompson, 1979). However, we cannot get very far in explaining the developments in social policy by referring to the twin concepts of 'capital's needs' and 'labour's demands' (Harris, 1980). While these formulations may seem plausible, they do not explain well why welfare States developed when they did, at different times and in different ways in different countries, and in the State rather than the private sector in some countries but not in others (ibid.).

Marxists and others are also now pointing to the similarities in these discussions with those within orthodox sociology. Orthodox sociology has seen a long-running debate about the relationship between structure and action, which some have seen as underpinning 'two sociologies', of functions and systems on the one hand and processes on the other (Dawe, 1970). Urry argues that Marxist accounts are similarly polarised, between Marxist functionalists (those concerned with seeing the way that the State in terms of its functions for capitalism) and Marxist humanists (who focus on class struggles, without looking at the effects of these struggles)(Urry, 1980:5; Harris, 1980:245).

If we turn to discussions of the nature of the State in India, or more generally in the Third World, we can see two general categories of discussions. The first is a pluralist view, which sees power as exercised through alliances forged by groups on the basis of a number of common and competing characteristics - caste, language, religion, education, for example, all providing bases for common action as well as (and often over-riding) narrow economic interests. This literature discusses State bureaucracies, in terms which suggest that bureaucratic structures are central to an understanding of the chances of any policy being implemented - such as the accounts which came out of the school around Ralph Braibanti in the early 1960's (Braibanti, 1961). The two strands in this kind of account are often poorly integrated. The issues for those who focus on the State involve the quality of recruitment policies, structure of control, or the quality of bureaucratic procedures, as if the bureaucracy is divorced from the every-day political world and just 'holds the ring'. Failures to maintain this divorce are then castigated by calling the result 'corruption', without posing questions about the interests of the bureaucrats, or the social groups favoured by these 'corrupt practices'.

The alternative view of the State draws on Marxist traditions, presuming that the State reflects or is an instrument of dominant classes: debate (as, for example, between the various Marxist parties in India) focusses on which classes are aligned together, and the attitude which should be taken over collaboration with the so-called 'national bourgeoisie', seen as particularly powerful in the Congress Party (Kurien, [ed.] 1975; Hawthorn, 1983). Much of the recent Marxist discussion of the Third World State looks to the seminal work of Alavi (1972), in which he argued essentially that the State in post-colonial societies is over-developed because it inherited from the colonial State bureaucratic and military institutions designed largely with a concern to maintain order and control. Alavi suggested that these institutions are strong enough to be relatively autonomous of the propertied classes within post-Colonial societies, and of their metropolitan allies abroad. In Alavi's view, what distinguishes the colonial State from post-Colonial one was its 'alien' character, not its institutions or primary concerns.

Alavi's formulation has come under attack from a number of quarters. For my purposes, the following points seem most crucial. To begin with, some writers have pointed out that Alavi seems to exaggerate the extent of the colonial State's control over civil society. Saul (1973), for example, argued that in the African context it is difficult to sustain the case, certainly without more clear-cut indicators of what might count as an 'over-developed' State. In the Indian context, following the work of Frykenberg (1965), a number of authors have stressed the limits to State control over local politics (Bayly, 1979; Washbrook, 1978), local economies (Whitcombe, 1972) or local social structures (Kumar, 1965). Washbrook, for example, argues that if anything the British State in India was less 'developed' in the range of modes of control over civil society which it could exercise than were the States which preceded it in South India - to such an extent that land revenue collection became

almost the only connection between the State and the local population (Washbrook, 1977; see also Moore, 1981). It can also be argued that the reason why Indians were incorporated into positions of influence, and eventually power, from the 1880's onwards, was because the British recognised the limits to the control which their State apparatus could wield. Of course, this line of argument cannot be taken too far: in terms of the control of legitimate force, and the ability to coerce agreement in the last resort, the Indian Army (with the British Army in India), the Indian Police, and the Indian Civil Service, could still together forge an instrument of domination more efficient and flexible than any previously seen on the sub-continent. But since Alavi's case seems to be based on the ability to manage everyday politics and bureaucratic matters without reliance on landed classes, the objections have considerable validity.

The second weakness in Alavi's account is his assumption that the Imperial State was fairly directly a tool of the 'Metropolitan bourgeoisie'. While there is obviously a sense in which the Imperial State _was_ alien, and answerable to its masters in Britain, it is also clear that the extent of that control was restricted by distance and lack of knowledge. Furthermore, the interests of the 'Metropolitan bourgeoisie' were rarely clear, unambiguous or unchanging. Even in the extreme case - 'ensuring a stable environment for trade, commodity production and revenue collection' (Wood, 1980) - by the 1920s this gave few guidelines to Indian bureaucrats attempting to cope with world recession and Japanese competition (Charlesworth, 1982). Further, there is little that can be gained from Alavi's formulation if we wish to understand not only the pressure on the State to provide for the needs of 'capital'; for example, in trying to understand the social policy innovations of the British, such as the suppression of _sati_, female infanticide, general education (but particularly female education) or in the field of health. Here, elements of imperial ideology (and variations in the form this took between

imperialists and at different times in different places) have to be considered seriously.

The third difficulty with Alavi's formulation is the meaning to be attached to the transfer of power at Independence. It is relatively easy to characterise the Indian Congress Party as being 'step-in-your-shoes' nationalists - concerned to get access to the levers of power but without clear ideas of what to do when they were there (contra the Chinese Communist Party) (Maddison 1970). It is also clear that both for the Chinese Communists and for Congress, in taking over the existing bureaucracy they were able to cope with the immediate problems of maintaining an administration in desperate times, but were also constrained in the policy innovations they were then able to take. Whereas the Communists did have an idea of the limitations they were facing, and developed ways of overcoming bureaucratic inertia through a policy of increasing political control at all levels, the Congress Party was largely content with what they had. But Alavi argued that this was because of their own ineffectiveness. The bureaucracy had developed ways of by-passing political leaders and Wood (1980) suggests that the main technique was to increase the complexity of bureaucratic routine as a way of coping with political pressures.

Alavi is, of course, talking specifically about Pakistan and Bangladesh, where the very short periods of political rule have made his case more plausible. The bureaucracy and the military obviously can work well together in situations where 'political' interference is minimised. But the Indian case is more complicated, and Wood's willingness to carry Alavi's argument over is more difficult to defend. In particular, it is clear that ministerial office in the Indian States does give scope for the exercise of a number of controls which the bureaucracy is almost powerless to prevent - in, for example, the transfer and promotion of State (rather than all-Indian) civil servants. The Departments with the largest employment (such as Education and

Health) are often prized Ministerships, because they offer such scope for patronage and corruption (Wade, 1984). Yet they are also Ministries where policies change. In trying to understand this we do not get very far by referring to bureaucratic methods of coping with politicians, nor with the competing classes whose interests are (or are not) articulated by the post-Colonial State.

Alavi provides some answers to these issues in a recent article (1982). Here he argues the case for distinguishing between four different levels of analysis of the State. The first draws on the so-called 'capital-logic' school and focuses on the role of the State in creating and reproducing a social order which permits the economy to function - in Alavi's terms, India is a 'peripheral capitalist' economy, so the minimal role the State must fulfil is to make it possible for capitalists to make a profit, to benefit personally, and to continue to invest. The second level relates to the questions Alavi raised in 1972, on the classes and groups who can be said to control the State: at this level issues of the actions of the State in specific spheres have to be considered. The third level is the analysis of the bureaucracy, its social origins and interests, and the extent of its autonomy, while the fourth level is that of the State as an arena for competing interests - party and pressure group politics.

Alavi argues that State action (at the second level) is set by a context in which a "structural imperative" exists; in which the basic notions of profitability, calculation, and capital accumulation affect the consequences of State action but do not determine those actions in advance. Rather, aspects of the other two levels (the bureaucracy and the 'political') have a role to play, making for deviations from what might be considered the strict logical requirements of capitalist enterprises or capital in general. Of course it may still be very difficult to define what that strict logic might require in any particular historical

situation. This model of political and social life is very similar to models of equilibrium in economics - an equilibrium which is never reached but towards which the economy is believed to tend in the long run.

The significance of Alavi's recent position is that it makes provision for the possibility that 'mistakes' can be made, and that not everything done by the State can be understood in terms of meeting the needs of dominant classes. In addition, it provides a space for sociological analysis of the ideas and interests of bureaucratic and other groups without making them seem either hypocrites or idiots - either consciously dissembling about the real reasons for policy, or unaware of the benefits to particular classes - which is all that tends to be permitted in classical Marxist analyses. Alavi's position also makes it possible to clarify some of the differences between the two kinds of accounts of health policy in India which I outlined at the beginning. In general, the uncritical accounts focus on Alavi's third and fourth levels, taking very much at face value what doctors and bureaucrats say they are doing and their reasons for doing so, and using a similar framework for looking at the pressure groups which try to influence policy. The critical schools, on the other hand, tend to look mainly at Alavi's first and second levels, the structural imperatives of capitalism and the class interests of powerful groups. Plausibly, a fuller account, encompassing all four levels, will be more satisfactory. The obvious problem is in how to relate the levels together, and (as I shall argue more fully later, for health policy) how to avoid seeming to argue that the links are unimportant. It is in this framework that I shall look at health policy in India.

My third 'prior decision' was to look at health services and their relationship to health in a particular way. Health services in any country do not emerge solely in response to the diseases suffered by the population. To begin with, those diseases are experienced and interpreted as social events (illnesses), and the

demands people make of healers are on the basis of these cultural processes. The classic (and over-generalised) example from India is of the tendency to explain smallpox as a curse from a particular goddess, and thus to respond to a sufferer very differently from the way those with plague, or cholera, are treated. Some writers have argued that the cultural specificity of disease categories makes it impossible to use 'Western' categories in the discussion of other populations. However desirable it might be in principle to use Indian disease categories in what follows, there are considerable problems. Firstly, it is not clear that there is a uniform set of Indian disease categories, but variations at least regionally and culturally. Secondly, the sources I am consulting all use a version of Western categories, even if these change through time. Finally, I (and most of my readers) implicitly order their view of the world of health and illness using these categories, and any attempt to use an alternative set would be partial and not genuine. But it should always be remembered that for most Indians a 'humoral' view of health and illness, sometimes extended by the use of concepts derived from the classical Indian traditions, gives a closer approximation to how they see the world.

Health services respond to the demands of some groups rather than others - men's complaints rather than women's or children's, town-dwellers' rather than villagers', ruling races', classes' or parties' rather than those of the ruled. These groups will probably experience different disease spectrums, and also interpret their experiences differently. Therefore, even if health services were to respond in a direct manner to the effective demands made on them, they would not necessarily reflect any 'real' disease pattern. But of course, there are other interests affecting health services. The interests of the State may be paramount. But they are likely to be mediated by the interests of the occupational group which dominates the medical division of labour, whose views of appropriate patterns of health services will be conditioned by their theories of disease

causation and treatment as well as their views of their own proper position in society. In a colonial situation, such as India before 1947, there may be considerable mismatch between indigenous and colonial views: and many would argue that this mismatch continues in the post-Independence world as a result of processes of neo-colonialism. However, State interests, and those of medical occupations, cannot be assumed once a particular country has been identified as 'peripheral capitalist'. There are considerable variations amongst such countries in the form health services have taken, and these forms have changed through time.

There is, therefore, an historical and a bureaucratic context to be understood. Health services in India today are conditioned in important ways by the legacy of health services established under British rule. 'Incrementalism' is a major feature even of change in 'revolutionary' contexts, as Lampton's painstaking accounts of medical policy in post-Liberation China make clear (1977). Even workers near the bottom of a hierarchy have interests in restricting changes which may mean they lose their jobs, or have them radically redefined, or require retraining and uncertainty: those workers near the top are likely to have scarce skills (socially defined) which give them power to limit proposals which might reduce or change their positions.

Finally, of course, these different elements are linked in ways which are usually mutually supporting, though occasionally contradictory. The model that I am using to attempt to understand these relationships is not very different from that of Roemer, who distinguishes historical determinants, economic levels, political policies and other cultural influences, as the 'determinants of health care systems' (1977:1). However, he classes all non-Socialist 'underdeveloped' health care systems together, solely on the basis of economic levels - but then places India in a 'transitional' category (ibid.:198). By contrast, I want to discuss the extent to which India is unlike the patterns described for other countries in the 'capitalist

periphery', and this needs a more sophisticated discussion of the State than the 'political policies' and 'ideology' described by Roemer.

In all this, there is no presumption that saying anything about health services will let us say very much about what affects health. The debates in Western Europe and North America concerning the causes of mortality decline in the 19th century, and the relationships between health services and the current level of life expectancy, are well known (McKeown, 1966; Powles, 1972; Illich, 1976; Lalonde, 1975). Except for a few interventions directly under medical stimulus (such as clean water supplies, or one or two mass preventive campaigns) it can be shown that the major killers of the 19th century declined in significance well before specific remedies or protections were provided by medical science. The relevance of this debate for 20th century changes in the rest of the world is more uncertain (see, e.g. Ruzicka, 1984). I shall discuss this issue in more detail, when I consider the impact of changes in living standards, the control of famine, and the role of good nutrition in reducing mortality. But in general I maintain an agnostic position: in most cases, we have little evidence that hospital attendances, vaccination campaigns, or town water supplies made a marked difference to people's health, and in general it will not be my concern to try to assess 'impact' measured in this kind of way. In other words, I would suggest that it is worth knowing how services were provided, at what cost, when and in what form, even if we do not know what benefit people received from using them.

In these pages I hope to tease out some of these relationships in the Indian context, and in particular to throw light on how the current patterns of health services in India took the forms that they have. There is general agreement that these patterns are inadequate, both for dealing with the needs of the Indian population today and as a basis for any serious attempt to reach the goal of 'Health for All by the Year 2000'.

Understanding better the historical roots of these patterns and their significance for present-day policy-making may help those trying to overcome these inadequacies.

THE ORGANISATION OF THE ARGUMENT

In what follows, I look at these arguments in two periods - pre- and post-1947 - and take a series of themes in each case. The four chapters in Part A address the issues of what were the health problems facing Indians in about 1800, and how did these change under British rule; what were the local forms of medical services in India at the time, and how did British rule affect them; who controlled medical policy in India under the British, and how much money was spent on health matters; and what were the dominant forms of British health care provision in India. These four chapters together argue that the major health problems of India predated British rule and were not substantially affected by British health policies, either negatively (the erosion of indigenous systems of medicine, or the 'diseases of development' - notably the spread of malaria) or positively (medical services or public health provisions). The limits to health progress under the British, it will be argued, were less the colonial structure of Government and racist/Imperialist goals than the very real constraints of resources and of the models of disease which were current at the time; and the major positive benefit of British rule on health was probably the changes in famine arrangements which had a dramatic impact on famine-related mortality despite a probable increase in the frequency of food scarcity.

In Part B, chapters 5 to 10 focus on health services and health since 1947. Chapter 5 looks at health problems at Independence, and trends since then, with an assessment of the most common explanations for changes in observed morbidity and mortality. I will argue that the organisation of health services to deal separately with different diseases (the so-called 'vertical' disease control programmes, notably in malaria) and

further progress in welfare systems (providing a floor of consumption at times of food scarcity) seem to account for most of the decline in mortality. However, the slow decline in mortality (especially child mortality) since 1970, despite record grain harvests and rising per capita real incomes, suggests that the health services are not contributing to further declines as they could.

Chapters 6, 7 and 8 discuss health policy-making in India at three levels of analysis. The first is the narrowly bureaucratic, and chapter 6 sets out the structure of health expenditures and the nature of public sector health provisions. This involves looking briefly at the role of planning and State-Central relationships in a policy field which is constitutionally the reponsibility of the State. It will be argued here that the Planning Commission has consistently pressed 'appropriate' policies on Ministries of Health, both Central and State, but that its inability to control expenditure has led to two unfortunate results:

- 'slippage' from rural, preventive, primary care objectives but a tendency to achieve or over-achieve targets which directly affect urban medical care facilities;

- an increasing significance of the Centrally-funded Family Welfare Programme (for other reasons as well) which has come to be the main channel by which the Central Government attempts to achieve changes in the primary care system. Some of the consequences of this pattern are explored in the following chapters.

Chapters 7 and 8 widen the approach to policy-making by looking at the politics of medicine within India and in an international context. Chapter 7 looks at the policy context for the public-sector health services, and argues that there is no evidence of concerted lobbies by 'organised interests': the

medical profession is poorly organised and claims but little in the way of successes, and the major pressures on Ministers seem to relate to the health sector as employer (transfers, promotions, recruitment etc.) These pressures have specific consequences, not actively sought by any of the actors involved. The empirical material is drawn from an analysis of the impact of the Indian Medical Association (I.M.A.) on a number of policy issues in the 1960s and the 1970s - tracing the background of medical associations in India from the mid-19th century and looking at data on membership and on the mode of internal organisation of the I.M.A. This material on the politics of health is set in the context of material on the internal politics of India.

Chapter 8 locates health policy internationally. To see health provisions as an entirely internal matter is obviously inadequate, but the potential scope of 'international effects' is enormous, ranging throughout the international agencies and the politics of the Cold War and the Non-Aligned Movement, as well as the full range of multinational corporations. I have chosen to limit the discussion to three areas where the impact of the international context is most direct and identifiable:

1. Foreign aid - its distribution by donor, by area supported, and changes through time, and the significance of overseas assistance in overall public sector health expenditures;

2. Medical migration - to show the extent of such migration, its approximate direction, the changes through time, the impact of 'medical dependency' and the relationships with the General Medical Council from the 1920's through the impact of 1976 'derecognition'; and

3. Multinational corporations, especially pharmaceuticals companies - to show the scale of these companies within the commercial sphere, their mode of operation and any impacts on

decision-making. In addition, there will be a brief discussion of the argument that such companies take advantage of the laxer 'environmental' controls in India to impose greater disease risks on the Indian population.

In general I argue that the more sweeping criticisms of the international health economy, derived largely from naive dependency analyses, are inadequate to cope with the variety of Third World experience, and the particular Indian case. Medical emigration from India, while substantial on a world scale, has had little noticeable impact on Indian health care provisions; despite multinational control over drugs, Indian production capacity is almost unique in the Third World for its scope and size; and foreign aid has contributed in no small measure to the most 'appropriate' as well as the less 'appropriate' aspects of Indian health provisions.

Chapters 9 and 10 are case studies of particular aspects of medical policy. Chapter 9 focusses on medical 'man'power policy. I argue that the Government was well aware of the weaknesses of the strategy followed in the 1950s and 1960s, which focussed on doctors and made no significant allowance for health assistants or village-level workers. In general, policy attempted to meet conflicting criteria: to ensure international acceptability for Indian qualifications (which demanded only one category of 'doctor'); to provide within India the full range of 'modern' medical services; to incorporate 'indigenous' personnel within bureaucratic health service provision; and to extend health services as rapidly and effectively as possible to the mass of the rural population. The reforms of the late 1970's (multi-purpose health workers to replace uni-purpose, vertical programme workers; and community health workers with a revived programme of training traditional birth attendants) are shown to have been proposed and argued down several times since 1947, and some of the special reasons which led to their final success are discussed.

Chapter 10 deals with the development of medical institutions and programmes, and considers the evidence on their mode of working. I argue that the major problems with their organisation lie less in their ability to discriminate against the poor and the disadvantaged in the distribution of scarce resources (though this occurs) than in two other facts: they have very few resources to distribute; and they do so within a bureaucratic framework which offers no incentives for 'appropriate' work and effort.

Chapter 11 forms the conclusion, with an assessment of the new approaches in health provisions and their likely impact. Since 1977, in the context of changes in the rhetoric of world discussions (Health By the People; Alma-Ata; Illich etc.), it might seem that past failures will be turned into future successes. Indian health provision in the voluntary sector, and new health sector aid policies, all point in the same direction. This chapter will argue that for most Indians, these 'new approaches' are unlikely to cause a break with the past.

SOURCES AND METHODS

The material reported here comes from a variety of sources, and has been collected over the course of the last 15 years or so. My interest in the topic was stimulated during a stay in Pakistan in 1970-71, when I carried out fieldwork in Lahore hospital casualty departments but also collected data on health policy and planning in Pakistan (Jeffery, 1973; 1974). I visited Punjab (India) in 1974, and made some preliminary analysis of Punjab Government materials available in Chandigarh, but more substantial data collection took place in 1975-76 when I was based in New Delhi.

In this period I had to wait for research clearance from the Government of India, because my application was received soon

after the General Medical Council had 'derecognised' Indian medical degrees; at the same time a team from the Institute of Development Studies at the University of Sussex was refused research clearance. While I was waiting I collected material from the reports of the Central Council of Health, newspapers held in the Nehru Memorial Library, other documents from the National Medical Library in the All-India Institute of Medical Sciences, and eventually, archival material from the National Archives of India, New Delhi. I also used sources provided by the Indian Medical Association at their national headquarters as well as the Delhi Branch, and interviewed office-holders. The terms of my research clearance did not permit me to interview current holders of office in the Ministries in Delhi, but I did interview one former Minister of Health (Dr Sushila Nayyar) and a former Director-General of Health Services (Dr K.N. Rao). I then created a listing of doctors in Delhi, and interviewed a 2% sample.

After returning to the U.K. I consulted materials held by the India Office Library in London, and by the Edinburgh University Library, as well as undertaking several more shorter trips to India, to investigate conditions on tea estates in Assam and to advise on a U.K. health aid programme in Orissa. These visits widened my understanding of Government processes. Finally, in 1982-3 I spent a year carrying out a joint research project (with Patricia Jeffery and Andrew Lyon) on childbearing in rural Uttar Pradesh, providing a new perspective on health services as seen by a 'villager', however privileged and temporary. Material on various aspects of this research has already been published: the bibliography includes a complete listing. In particular, the data on foreign aid used in chapter 8 has appeared in the International Journal of Health Services (Jeffery, 1985); some of the material in Chapters 2 and 4 have appeared in Social Science and Medicine (Jeffery, 1983) and in Modern Asian Studies (Jeffery 1979).

In what follows I shall be transgressing a number of disciplinary boundaries, most notably between sociology, history and health economics, and I shall not satisfy specialists in any of these fields. In developing the material for this case study I have been restricted by the availability of sources. In particular, the material drawn from Orissa was available only because of my regular visits to that State in a semi-official capacity, and I did not select the State on any theoretical grounds. Some of the gaps in the arguments reflect these problems; and some of my arguments may reflect the existence of sources which I have been able to use, rather than the most important arguments which one might want to make. Nonetheless, I hope these pages will shed light on an area much discussed, but not much studied.

A NOTE ON TERMINOLOGY

In the following pages I have generally referred to doctors trained in the medical colleges and schools established by the British as 'Western doctors', and the medicine in which they were educated as 'Western medicine'. This is contentious; Leslie, for example, has urged the use of the term 'cosmopolitan medicine', to denote the fact that this no longer has its roots solely in Europe and North America (Leslie, 1976). It is also problematic in India, since **Unani** ('Greek') and homoeopathic medicine also both came from the West. On the other hand, it reflects usage in India, especially in the period before 1947 when this system of medicine was identified with the British, and when 'cosmopolitan' strikes an anachronistic note. The alternative terminology in India is 'allopathic', a term derived from homoeopathy, and contested by 'Western' doctors as being too narrow. I do not feel that there is an ideal solution, but I feel happiest with 'Western medicine' and 'Western doctors', and have used the terms in this way.

INTRODUCTION TO PART A

"It was and is a basic trait of imperialism that the capital it has invested in retarded areas develops them only in a very lop-sided and inadequate fashion. They have for the most part lingered in a broken-backed condition, a limbo between old and new, with a money economy but not an industrial one, and forming a passive appendage to the advanced countries." (Kiernan 1974 11-12)

> "There is, however, no room for equivocation over this matter, over the results of imperialism's forceful incorporation of the bulk of humanity into the modern world. As Marxists we must accept the view that the epochal imperialist sweep was indeed a titanic step towards human unity (on the basis of the greatest cultural and material achievements so far attained by humanity)." (Warren, 1980, 137)

Many writers (not only Marxists like the two quoted above) have wrestled with the attempt to disentangle and evaluate what Marx called England's double mission in India - one destructive and one regenerative - and what others have regarded as a characteristic of industrial capitalism in general (Marx, 1973:320). The achievement of formal political control by the British over much of what we now call India undoubtedly facilitated the inclusion of India in a world economy: the State which oversaw the construction and operation of the new economic order was one which was finally responsible to political control outside India, and this undoubtedly had specific consequences. In the field of tarriff control and land revenue this may have been decisive. But in many other areas it becomes a hopeless task to try and assess how things might have been different had political control remained in India. It is notable that some Marxists have returned to themes which Weberian writers have stressed - the need for changes in social and political institutions and cultural patterns before economic changes can take hold (Worsley, 1980; Warren, 1979). So there is support from many sides for the argument that the absence of colonial rule in India would not thereby have led to faster, more thorough-going, or more equitable processes of social and economic change.

Similarly, historians are increasingly stressing the extent of integration in pre-British India, the level of monetisation of the economy, or the extent of agrarian landlessness (Kumar, [ed.] 1982). Colonial rule was neither as all-encompassing nor as destructive as many early writers claimed; and the social and cultural impact was perhaps as important in the long run as the 'drain' of booty to England in the 18th century, or the lack of protection for the hand-loom cotton industry in the 18th and early 19th centuries (Charlesworth, 1982). Warren, in his attempt to refocus Marxist thought on the generative side of imperialism and modern capitalism stresses the improvement in health brought about by the colonisers, indicated by rapid population growth and declines in mortality rates following within a few decades of colonial rule: this is a view which runs directly counter to most Marxist analyses, in which an expansion of misery and a decline in the quality of life are more usually associated with colonialism (1980: 113).

But it would be a mistake to treat the whole Imperial period as if it were subject to little change, as Frank, for example, in some of his writings appears to do (Frank, 1967). In looking at the history of the Imperial State in India it is possible to see three main periods for analysis, with qualitative changes around 1860, and 1920. Prior to 1860, the State was a curious amalgam of commercial, administrative and military machines; from 1860 to 1920 we can see the 'High Noon' of the British State in India; from 1920 onwards the process of Indianisation begins in earnest, and Independence in 1947 ushers in a further set of changes. These dates are of course only approximations: not only are the 'stages' reached at different times in different parts of the sub-continent (Punjab often seeming to lead the way) but the turning points are often spread out over several years. Thus the changes of 1920 can be traced back to Curzon's attempt to partition Bengal in 1906, and to the Morley-Minto reforms of 1907, which culminated in the new order established by the 1919

Government of India Act.

The history of the British annexation of India does not need much rehearsal: the main signposts of the political history are listed in the Timeline in the Appendix. From the founding of the trading company, the East India Company, in 1601, roughly until the military campaigns of 1757, which included the Battle of Plassey and Clive's victorious march on Calcutta, British power was largely confined to control over different aspects of foreign trade. The European competitors - the Dutch and the French - were not obviously inferior in military strength or trading ability, and the ebb and flow of competition between the European powers was over-shadowed by the growth and decline of the Moghals, who reached their furthest geographical spread in the reign of the Emperor Aurangzeb, who died in 1707. But the events of 1757 established the superiority of the British over the other European powers, and demonstrated their ability to intervene effectively in Indian politics, setting in train an almost irresistible chain of conquests and advances, culminating in the overthrow of the Sikh kingdom in the Punjab in 1847, and the takeover of Oudh in 1856. The Company developed into a 'ruling' body partly to defend and extend its commercial interests; but one result of conquering territory, or taking on the collection of land revenue, was to reduce steadily the relative significance of its trading activities. The problems and rewards offered by rulership and land revenues led the British Parliament, in Acts of 1833 and 1853, to begin to exercise increasing supervision of events in India.

By 1800 (the starting point for much of what follows in Part A) the processes of territorial spread and institutional transformation were still under way; by the 1850's they were all but complete. This was symbolised by the British crown taking over formal control after the upheavals of 1857/8; and by the ending of the policies of aggressive conquests of new territory in the core of the Indian subcontinent. In the last half of the

18th century, the British in India had acted in a rapacious manner, looting and laying waste the lands of defeated enemies, using force to insist on unequal contracts or the payment of penal fines, and extorting very high land revenues. But the British Government of India was steadily bureaucratised (in almost the classical Weberian sense) over the first four or five decades of the 19th century: by 1860 the process was almost complete. Private functions and finances were steadily separated from public ones, efforts were made to establish recruitment procedures which were free from elements of purchase and sale of office, and clear lines of control were set up between London and Calcutta, and on down into the countryside.

The events of 1857 (the Mutiny or Sepoy Rebellion) hastened the changes. The 1858 Government of India Act required regular reporting of Indian financial affairs, and efforts to promote 'moral and material progress' in the country, which tended to regularise and systematise the organisational structure within India. The forms of Government established at this time dominated developments for the next 60 years. Most of the changes introduced - such as the increasing involvement of Indians at the higher levels of the Government - were brought in without changing the basic structure. Others - such as the establishment of local self-government after 1882 - only began to have a serious impact towards the end of the period. This 60-year spell saw British rule at its most self-confident, and typifies the image usually held, of racial pride, a concern for official superiority and efficiency, and mountains of paperwork. It is in this period that policy in India can be seen most clearly as stimulated by the changing context of ideas in England, with Liberal and Conservative Viceroys and Secretaries of State attempting to influence the course of action in the light of their ideas of the Imperial role (Moore, 1966, Stokes, 1959). In some respects, such as the growth of public education and public health provision, the State took a much more prominent role in India than in Britain, because of the absence of vested interests

and of alternative institutions in civil society already providing such services. But the scope of these innovations was always limited by the main demands on the State - the maintenance of law and order, protection of the external boundaries, and financial rectitude.

The reforms associated with Montagu (as Secretary of State) and Chelmsford (as Viceroy) in 1918-19, mark a decisive shift in the pattern of events. They were heralded by the Morley-Minto reforms of 1907-09, which Moore (1966) characterised as 'the shadow of reform and the substance of repression'. The main elements of each reform package were the extensions of the principles of representation and Ministerial Government responsible to an elected legislature, but whereas the changes before the War had a minimal impact, those after it had much greater long-term significance. From 1919 can be dated the full flowering of the Provincialisation of most of the major arms of Government, especially education and public health, and the division of powers between the Centre and the Provinces. This division was left virtually unchanged by the reforms of 1935, and it is the basis of the Indian Constitution after Independence.

The Government of India Act of 1919 drew on the reports of two Royal Commissions (on Decentralisation and on Public Services) and on a number of other proposals. It attempted to widen the spheres of 'Indianisation' and to extend the powers and autonomy of local government without undermining the basis of Imperial control. The solution included the establishment of two divisions of government activity: between the Central and the Provincial Governments; and between subjects 'transferred' to ministerial control, and those 'reserved' for official control.

In spite of the fact that the Congress Party never fully committed itself to working the 1919 Constitution (largely because it was associated with repression symbolised by Dyer's massacre of unarmed Punjabis in Amritsar) the inter-War period

saw real power exercised for the first time by Indian Ministers, and a dramatic growth in the Indian membership of all the elite bureaucratic 'services'. London's ability to control events in India steadily declined, so that Independence became increasingly predictable and well within the established patterns, despite the apparently chaotic conditions of 1946 and 1947. Post-1947 policies in many areas followed the lines laid down while the British were still formally in charge.

Part A, then considers the validity of some elements of the 'critical' arguments about Imperial impact with specific reference to health and health services in India, produced both by nationalists and Marxists (eg Naoroji, 1901; Digby, 1901; Baran, 1958; Banerji, 1975). The 'critical' case against imperial rule, in its simple version, is that Imperial rule had a number of negative consequences for Indian society. In the first place, living standards were reduced (through the working of land revenue, trading patterns in which the 'surplus' was creamed off by European traders, and the 'drain' to London in particular). Following from this, it was argued, was a thwarting of development potentials, which limited the extent of technical and social change within India and lowered the technical level in certain key areas.

What was the effect of British rule on health conditions in India? In part, this question can be resolved into a conundrum: what caused the rise in population (especially after 1920) if it was not an improvement in general living standards? but what was the result of that population increase, if it was not a decline in general living standards? It is relatively easy to discern two strands in writing on this subject. There are those, like Banerji (1974), who follow the nationalist tradition dating from Naoroji (1901) and Digby (1901). They argue that Imperialism destroyed existing balances between people and their environments (including coping mechanisms like indigenous healing traditions) and led to a decline in standards of living (indicated by such

variables as income per head, or by reference to reports about the rise of urban slums and rural distress). In addition, they argue, Indian healers were 'deskilled', because they were deprived of elite patronage, and local village-based society was destroyed by commercialisation and the creaming off of surplus to the State. In addition, in some respects, the developments which did take place had 'unhealthy' consequences, as for example in the conditions which were permitted in towns, and the spread of malaria (accompanying canal and road or rail developments) and the plague (introduced into Bombay along colonial trade paths).

The critique would continue by arguing that the measures adopted by the Government in India were totally inadequate to deal with these problems. In part this is to be explained by the racist basis of rule: the interests of the European minority received undue concern, while the Indian majority received little more than the crumbs from the White table. Thus the Indian Medical Service (I.M.S.) was designed to service the Indian Civil Service and the Army: only incidentally were services provided for the mass of the population. Hospitals and dispensaries were urban, and again designed with the interests of European civil servants as their highest priority; and the training of medical practitioners was designed to provide subordinates to Europeans in the I.M.S. Only the surplus was available to provide private medical services to the mass of the population, and their potential was limited not merely by the inadequacies of their training but also by the way in which medical training denied the relevance of the local culture, and systematically derided local medical traditions. The provision of health services was unwontedly 'medical' in character, with preventive and sanitary measures of low priority, concerned most with European troops and the European quarters of towns. In many ways, sanitary measures were restricted to attempts at social control, most obvious in the anti-plague measures. Thus what little was spent on health could have had virtually no benefit for the mass of the local population. Any improvements in the health of Indians would thus

have been no more than accidental, and to be explained as the unintended consequences of quite other policies.

The major weakness of the critics is that they are too willing to generalise on the basis of very little material: in fact there are few good discussions of the impact of British rule on health in India. They are also likely to apply anachronistic standards - to blame colonial health services for their inadequacy, when, prior to the 1920's, medical services were inadequate everywhere, and even public health services had an uncertain impact on health, particularly on infant and child health (Powles, 1973; Oakley, 1985).

On the other hand, the apologists for Empire, especially from the colonial period, focus on the benefits of Imperialism, including the provision of health services, communications and peaceful conditions (Griffiths, 1952; Anstey, 1926; Davis, 1951). From this perspective, British rule brought peace to a sub-continent racked by many local wars and a decline in public order as the Moghal Empire collapsed. In addition, the provision of railways, roads, canals and trade was seen as leading to improvements in living standards and economic security. Social infrastructure included health services, based on 'scientific' medicine to replace what was seen as 'medieval' medicine or superstition. Famine policy - the provision of jobs and relief in times of scarcity - could also be seen as a major benefit of Imperial rule, leading to major savings of life.

Many of the apologists are guilty of the opposite failings to those of the critics - assuming the significance of health services because they were provided at all, rather than assessing their real contribution. It is too easy to assume that health services are an unmitigated 'good', and that 'the natives' were living in benighted squalor before they received the benefit of such 'civilising' influences as education or medicine. The temptation to ignore both the positive aspects of existing

institutions, and the contribution made by foreign rule to the squalor, was one which few of the British avoided after the 1820's or the 1830's. Prior to that period, there were influential 'Orientalists', who made efforts to learn Sanskrit and to find valuable aspects of Hindu culture to preserve and pass on. The loss of their influence over British ruling ideology seems to have been almost total, and only isolated commentators (Leitner, 1882; Digby, 1901) stand out against the complacent assessments of British superiority.

My response to this debate - an attempt to assess the validity of the two major viewpoints - will be provided by the following three chapters, by looking for answers to three interrelated questions:

- what happened to the health of the population in this period?
- how did British rule affect the indigenous ways of coping with illness, with local medical systems and their practitioners?
- and how successful were attempts made by the British to provide medical care and public health services?

Chapter 1 thus focuses on the history of the Indian population under Imperial rule, with a particular concern to isolate evidence about mortality and, where possible, morbidity. The next chapter will concentrate on the specific nature of the indigenous healing traditions and the way they were affected by Imperial rule. In Chapter 3 I will describe the development of the Indian Medical Service, and patterns of financial expenditure, and more detailed discussion of the nature of health services provided by the British will be considered in Chapter 4. In each case I will focus on the period after 1800, when more information is available and reliable, and the impact of British rule (as opposed to trade or conquest) was more established.

In the Conclusion to Part A I shall deal with the more general question of health and health services under Imperialist rule.

CHAPTER 1

HEALTH STATUS IN INDIA BEFORE 1947

> "Another by-product of British rule which served to worsen the position of the peasantry was the increase in population. .. In the years since (1880) the population has increased considerably. The amount of land available to the average peasant family has become less. Because of the competition for land, the landowners and money-lenders have been able to make the peasants agree to more and more onerous terms for the use of the soil and of credit" (Thorner and Thorner, 1962:109-10)

This chapter will consider the available information on the course of mortality and morbidity changes during Imperial rule. After a consideration of what can be said about the more direct indicators of health status - morbidity and mortality statistics and population changes - I will deal with indirect indicators of health status. The more important of these are patterns of life-chances and their distribution (changes in the class structure and the distribution of income and wealth); living patterns (the rise of towns, other changes in labour migration); environmental changes (the effect of the introduction of canals in particular); and the impact of general programmes and policies followed by the Government of India (in particular, to mitigate the effects of famine). These will form the topics of the following sections.

My argument will be as follows. It is tempting to claim that the decisive shift in population dynamics can be dated from 1921 (because the following decades have seen a steadily rising growth in population caused by a declining death rate). However, arguing in this way leads to two problems: firstly, the 1920s and 1930s are periods of recession, when almost all commentators agree that living standards fell; and secondly, it misleadingly suggests that medical services were an important contributor to the shift. I would argue one problem is caused by the focus on all-India patterns, and that the decisive shift probably occurred in stages

over the preceding 40 years. After 1880, there are three major disasters which disguise the extent of the shift: plague; the 1896-1900 famine (which was affected by the plague epidemic); and the influenza epidemic of 1919-20. It is obviously not legitimate to 'ignore' these events, but the population history of some areas which did not suffer from them lends some support to this argument. If this argument is accepted, it would suggest that neither the 'Pax Brittanica' nor public health services played much part in the decline in mortality (as Davis, 1951, argued), but that the crucial factors were the control over famine-related mortality which British policy had mostly achieved by 1880, and the rising real incomes of the mass of the population in the last quarter of the 19th century.

MORBIDITY AND MORTALITY BEFORE 1947

The first substantial and reliable censuses in India were held around the middle of the 19th century, with the first attempt at an All-India census between 1869 and 1872. Decennial censuses for the whole country taken at one point in time date from 1881, and while they provide outstandingly good information compared to many other countries they are only reasonably reliable. Their main weakness is underenumeration, usually not random but larger for some age-groups than for others, for some areas than for others, or of women more than of men: estimating the extent of this is a tricky and inexact art (Visaria, 1971).

The other demographic sources are much less valuable: the registration of births and deaths, which started in the main cities at about the same time, has yet to reach an acceptable quality, so changes in recorded rates may reflect changes in coverage rather than changes in underlying processes. Not until 1968 are there more reliable estimates of mortality and fertility, derived from the Sample Registration Scheme, instituted by the Government of India in the mid-1960's when the

inadequacy of the National Sample Survey became obvious. Similarly, for the period I am considering here, evidence about causes of death have to be inferred from small surveys or from special collections of figures during epidemics, for example of plague or cholera. Even now, the Model Registration Scheme, which is the main current official source of information about causes of death, provides estimates known to be seriously inadequate, and other sources of information (such as hospital in-patient statistics) report on a very small and atypical sample of deaths.

For estimates of population totals, and of mortality and fertility levels prior to 1871 there is considerable dispute about the interpretation of sketchy information (Morris, 1974). For my purposes (to assess population changes in the nineteenth and twentieth centuries) I need an estimate of the total population, mortality and fertility rates in 1800. There are two basic methods used to do this: to extrapolate forwards from 1600, or backwards from 1871. The sources for 1600 are Akbar's revenue collection documents (the 'Ain-i-Akbari), used by writers from Moreland (1920:22) onwards. Habib (1982) has recently argued plausibly that Moreland's original figure for all-India (100 million) was an underestimate, probably by as much as 50%. Habib's revised estimate of about 140-150 million seems a reasonable figure. But what happened to the population between 1600 and 1800?

Das Gupta and his colleagues (1972) produced an influential estimate of 154 million for the area of present-day India in 1800, arguing that the growth in population was largely between 1600 and 1675, with little growth from 1675 to 1800. Using Habib's revised 1600 figure, this would generate an estimate for 1800 of 190-220 million. But there is little evidence to support this line of argument. It seems that there are no grounds for any particular set of assumptions. Others have argued that it is only possible to work back from 1871, and to ensure that the implications for the period between 1600 and 1871 are reasonable.

Writers following this line of enquiry have produced a variety of estimates for 1800. Davis (1951) assumed a population in 1800 of around 125 million, by trebling an estimate for British territories then of 41 million. But as he notes himself, in order to make this compatible with his corrected 1871 Census figure of 255 million, it is necessary to assume quite dramatic increases in population from about 1845. The estimates produced by Das Gupta (1972) assume less substantial population growth in the 19th century, of around 0.4% per year. This is the result of using the same regional growth rates for the area of present-day India as those which occurred between 1871 and 1921, and produces a figure for 1800 of 154 million for what is now India. Morris (1974) has used much the same technique for the whole sub-continent, extrapolating backwards from 1871 using the average annual rate of growth of population between 1871 and 1921 (0.36%), giving an 1800 population of 197 million; and Mahalonobis and Bhattacharya (1972) by different methods produce an estimate of 207 million.

As Cassen (1978:3) notes, neither kind of estimate can be regarded as precise, and all should be treated sceptically. Visaria and Visaria (1983:464) also note that more recent estimates of population in 1800 are much higher than the earlier ones. Nonetheless, it seems likely that the population of all-India in 1800 was between 190 and 210 million. This means that in the preceding 200 years, population might have grown only slowly and unevenly, by as much as one-third overall. The implication of the second kind of estimate is that 19th century population history mirrored that of 1871-1921, in which growth remained uneven but was at a higher average rate, rising by between 25% and 33% in only 70 years.

It is usually argued that in populations like this, the key determinant of population changes is change in the mortality rate. There might be short-term fluctuations in fertility (caused

by famines and epidemics affecting the numbers of married couples in the reproductive age groups and so on) but it seems unlikely that there would have been a substantial rise in fertility. If we want to make estimates about mortality and fertility between 1800 and 1870, we have only the data derived from the censuses after 1871 (and more insubstantial material from 1851) to use as a guide (see Table 1).

TABLE 1

POPULATION FIGURES FOR INDIA, 1871-1941

Year	Population (millions) Gujral	Davis	Crude Birth Rate	Crude Death Rate	Life Expectancy at Birth Males	Females
1851	224					
1861	241					
1871	253	255	n.a.	n.a.	24	26
1881	258	257	49	41	25	26
1891	282	282	46	44	24	24
1901	285	285	48	43	23	23
1911		303	49	49	19	21
1921		306	46	36	27	27
1931		338	45	31	32	31
1941		389				

Source: Gujral (1973); Davis, (1951:36, 62 & 69).
These figures are for what is now India, Pakistan and Bangladesh.

The general argument, then, is that from 1800 to 1921 India had high birth rates (fluctuating to a small extent but over 40 per 1000 population in most years) and high death rates (fluctuating much more, sometimes above and sometimes below 40 per 1000 population). The peaks in mortality are particularly associated with drought and famine conditions. In more 'normal' years, mortality was more affected by endemic diseases and poor living standards.

In the years when mortality was exceptionally high there shortages of food interacted with disease: in many cases a famine was followed by an epidemic whose effect is magnified by the malnutrition suffered by vulnerable groups in the preceding year. Drought and famine rarely affected the whole of the country. Mitra (1978:II, 764-818) lists droughts and famines reported between 1729 and 1973. From the 1830s on (when reporting

improved) a famine, scarcity or drought is reported from somewhere in the country every three years or so. It has been argued for Bengal in particular, and for India as a whole to a lesser extent, that the frequency of famines in the nineteenth century was much higher than in the preceding period, with the worst experience being the fifty years after 1860 (Bhatia, 1967). Widespread and severe famines and droughts occurred in 1877 and 1878; in 1897 and 1898 (accompanied by an epidemic of plague); and in 1919 and 1920 (preceded by the influenza epidemic). This seems to mark a watershed: after 1921 there is only the Bengal famine of 1943 to compare with these earlier disasters.

Sen's recent detailed re-analysis of excess mortality after the Bengal famine clarifies the kinds of processes involved (Sen, 1980). The famine, and deaths directly and obviously from starvation, were over by November 1943, but mortality from malaria, smallpox and to a lesser extent cholera continued at above normal levels for the next three years or so. Of the excess mortality registered between 1943 and 1946, 37% was attributed to malaria. Thus Sen argues that official estimates were little more than half the famine-related deaths, because people in the later stages of malnutrition may contract diseases from which they then are recorded as dying. The concept of 'excess mortality' is hard to define, but in general it would seem that famines expand mortality partly by helping to turn endemic diseases into epidemic ones. (The exception in India, but not apparently in Europe, is that tuberculosis deaths do not normally rise during and after famines. It is not clear why this should be so.) Famines also affect sanitary arrangements and water supplies, and diseases spread more easily as desperate populations (usually the men) search the countryside for work, and public health services break down (ibid:205).

These patterns account to some extent for the peaks of mortality, but the generally high level had more to do with malaria - possibly accounting for one death in five at the end of

the nineteenth century and after (Klein, 1973). A variety of respiratory diseases (pulmonary tuberculosis, pneumonia, bronchitis) may have been the next largest contributor to mortality, and then the digestive tract diseases, of diarrhoea, dysentery, cholera. Probably as many as 10 million people died from plague in the 20 years after 1896 when it spread from Bombay.

As with other similarly poor populations, infants contributed most to the mortality levels and were particularly vulnerable to most of these diseases mentioned. The estimates of infant mortality suggest a figure over 250 per 1000 live births in the 19th century, falling to around 160 to 200 by 1941 (Visaria and Visaria, 1982). In general, most estimates suggest lower infant and early childhood mortality rates for females than for males, even in North India (where female infanticide was practised amongst some groups until the 1870s, and where the neglect of female children remains more common than in South India). But of those who survived childhood, at each age women were more likely to die than were men (Visaria and Visaria, 1983:498-500). During the peaks of mortality, the reverse was often the case, for reasons not yet clear (Mitra, 1978; Sen, 1980).

It is difficult to assess the variations in mortality rates by social groups. It is probable that, as usual, the poor suffered more than the relatively wealthy, but in India in this period records were kept (if at all) by caste or community not by wealth or income. In Bombay and Calcutta in the 1880's and 1890's (when mortality figures were kept with some degree of accuracy) in normal periods the registered crude death rates of the low castes were about 50% above those of the clean caste Hindus, or twice the European rates. But in the periods of famine and epidemic the lower castes suffered catastrophically. As late as 1920 low caste Hindus in Bombay had a registered crude death rate of 120 per 1000, compared with figures for other categories

ranging from 25 (for Europeans) to 41 (for non-Brahman clean caste Hindus) (Klein, 1973). Not surprisingly, the class most likely to appear for famine relief services was that of the agricultural labourer, often Harijan in caste, and some of the village artisans, especially weavers (Bhatia, 1967:10-11).

The evidence suggests, then, that in the Indian sub-continent as a whole, mortality levels were lower during the first century or so of British dominance than previously. However, any tendency for mortality to decline was halted during the 1890s (usually associated with the plague and famines of 1896-1900) and the 1910s (usually explained by the influenza epidemic of 1919-20. Other factors have also been used to help explain the higher mortality at the end of the 19th century, notably the argument that the potency of some epidemic diseases - especially malaria - seemed to rise in this period. After 1921, by contrast, mortality falls quite dramatically.

Before accepting this overall picture too easily, however, it is necessary to point out that the apparently straightforward national pattern is made up of quite varied local ones. Some local patterns are complicated by the results of administrative decisions - the siting of cantonments, or the choice of a railway route, might dramatically affect the population of one district as compared with another. In all cases, migration has a greater potential significance for total population the smaller the unit studied. It is now generally argued that there was considerable short-distance or short-term mobility from the eighteenth century onwards. After 1860 there was substantial longer-distance and longer-term mobility (e.g. to tea plantations, or as indentured labour abroad), which affected some regions (notably Chota Nagpur, Punjab, Gujarat, South India) more than others (Tinker, 1974).

Census commissioners dealing with provincial variations in population histories often failed to discern any clear pattern:

in some cases the districts which grew in population were the most densely populated to begin with, while elsewhere there was an expansion of cropped land to account for population growth. The attempt to distinguish **mortality** changes from other demographic changes in smaller areas is almost hopeless. Some long-term studies of individual districts or villages give an idea of the range involved. In Indapur taluka, near Poona, the population rose steadily between settlements of land revenue in 1835-36, 1865-66 and 1895-96, showing a rise of 65% in the 60 years (Kumar, 1968:302). Yet this area was particularly badly hit by the influenza epidemic, and the population which had risen by almost a further 20% by 1911 was recorded at the same level in 1931. Vilyatpur, in Punjab, was relatively densely populated even in the nineteenth century, and the population rose steadily from 1855 to 1891 before falling until 1931 and rising again thereafter. Kessinger (1974:85-93) suggests that the population decline was largely accounted for by emigration, though there were also epidemics of cholera in 1892, plague in 1897-98, 1903 and 1915, and influenza in 1918.

These local variations are not restricted to the area of British India. In the Princely States, those parts of India left under indirect rule, population changes seem roughly comparable with the surrounding British areas. There are, however, major exceptions, especially in the States of Travancore and Cochin - an exception with particular current interest since in this part of India (roughly the modern state of Kerala) mortality and fertility rates are currently much below the levels in the rest of India. As Table 2 shows, one of the two other sizeable South Indian Princely States - Mysore - and part of Hyderabad (the Eastern Telengana) show similar patterns. The other part of Hyderabad (the Southern Mahratwara) has population changes closer to those of India as a whole, declines in population between 1891 and 1901, and again between 1911 and 1921.

TABLE 2

POPULATION GROWTH IN PRINCELY SOUTH INDIA, 1871 TO 1941

State	Population in millions							
	1871	1881	1891	1901	1911	1921	1931	1941
Cochin	*0.60	0.60	0.72	0.81	0.92	0.98	1.21	1.42
Hyderabad								
Telengana		4.3	5.2	5.4	6.7	6.4	7.5	n.a.
Mahratwara		5.5	6.3	5.7	6.6	6.1	6.9	n.a.
Mysore	5.1	4.2	4.9	5.5	5.8	6.0	6.6	7.3
Travancore	*2.3	2.4	2.6	2.9	3.4	4.0	5.1	6.1

Sources: Decennial Census reports.
*The Cochin and Travancore census was held in 1875 not 1871.

It would seem that the transition to declining mortality patterns took place much earlier in Mysore, the Telengana region of Hyderabad, Travancore and Cochin than it did in the rest of India. After making allowances for under-enumeration Rayappa and Prabakhara, (1981:2018-31) estimated that the population of Travancore rose by over 10% in every decade after 1881, and by nearly 25% in the decade 1921-1931. They attributed only a small part of this rise to net immigration. The Cochin rises are only slightly less dramatic, while for Mysore the steady overall increase is held down by population decline in some areas in the forested hills in the West of the State - the 'malnad' - where malaria and continuing poverty made recovery from famines a slow affair. Over the 60 years from 1891 to 1951, total population growth in this area was only about 2%, compared with over 50% in the rest of the State (U.N., 1961:13-14)

The idea of a 'national' pattern to population change is thus suspect. This is partly due to ecological variation - different impacts of epidemic diseases such as plague or influenza depending on climate or distance from the source of its introduction into India. But there are also sources of variation which seem more social in character, and it is some of these that

I shall now consider.

THE EFFECTS OF BRITISH RULE ON INCOME LEVELS

This is one of the most contested areas in modern Indian economic and social history, and there was a major debate on the issue in the 1960's which left the question unresolved (Morris et al. 1972), and has given rise to a further substantial debate (Heston, 1982). There are several necessary elements in the analysis, all of which are difficult to assess and all show considerable regional variation. Firstly there is total output (in particular, agricultural output) over the period, affected by the growth of industry, changes in productivity, changes in cropping patterns and extensions of cropped area and so on. Then there is the distribution of the income generated by this output - a distribution between the State (which transmitted some of its share to Britain) and the local population, and within the local population, affected by changes in patterns of rights and obligations with respect to the land. Then there are changes in the form of the output - the rise in cash crops, changing exports and imports, shifts between different sectors of the economy and between rural and urban settings, or between the different regions, for example. In one shorthand, we would need to comprehend the changes in the forces and relations of production in India over this period of 150 years in order to begin to assess their likely impact on the health of the Indian population. Thus per capita income is a crude indicator of changes in levels of living, but it is still potentially the indicator which allows for the most useful comparisons between the beginning of the 19th century and the early 20th century, and is perhaps the place to start.

The 'classical' view (as Morris terms it) of changes in per capita income in the period 1800 to 1947 is that it was stagnant or declined (Morris, 1970). One example is Mukherji's pioneering work, which goes back no further than 1857: while it cannot be

regarded as a final statement, his conclusions appear to have some general validity. They are that real incomes did rise between about 1860 and about 1885, with some decline thereafter until around 1900, when a further rise took place until about 1925, followed by stagnation and a further period of decline from about 1940 to 1950 (Mukherji, 1965:700-02).

However, the main problem of this form of estimate is that it relies on crop statistics provided by officials who had little interest in the subject, little support and no training. Blyn's work depends heavily on these figures, from which he derives a series for the gross availability of foodgrains which rises during the 1890's but is stable from then until Indian Independence - thus implying a steady decline in per capita availability from 1921 onwards (Blyn, 1961:285). It is not clear whether these estimates can be regarded as varying randomly, or whether there might be consistent tendencies for which allowances could be made (Dewey, 1978:304; Chaudhuri, 1979). Dewey, perhaps the harshest critic of the use of these figures, nevertheless suggests that the regional variations disguised by the national figures can be meaningful, in drawing attention to deteriorating conditions in Bihar and steady expansion in Punjab, for example (Dewey, 1978:314; see also Charlesworth, 1982). Some have argued that the harshness of the criticism is unwarranted, at least in certain regions for certain purposes: thus Islam (1978) uses these sources for his study of Bengal, and Mishra (1983) argues that the statistics for Bombay are more reliable than Dewey and others have suggested. Blyn's figures in Table 3 must therefore be used very cautiously, but they suggest the extent of the possible regional variation.

TABLE 3

AVERAGE CHANGE IN PER CAPITA ALL CROP OUTPUT FROM 1896/7-1906/7 TO 1936/7-1946-7 IN BRITISH INDIA AND REGIONS

Region	Average 1896/7 -1906/7 Rs	1936/7 -1946/7 Rs	% change
Greater Bengal	41.6	32.5	-22.0
United Provinces	37.1	36.7	- 1.0
Madras	37.0	37.6	+ 1.5
Greater Punjab	34.4	42.3	+23.0
Bombay-Sind	38.7	40.7	+10.5
Central Provinces	58.0	42.9	-26.0
BRITISH INDIA	41.5	32.5	-21.7

Source: Blyn, 1961:309.
Greater Bengal includes Bihar, Orissa and Assam; Greater Punjab includes North West Frontier Province and Delhi.

However, once again this aggregated picture needs to be looked at more carefully. Thus for Bengal, Islam agrees with Blyn that most of the decline in per capita output described above was attributable to declines in Bihar and Orissa (1978:201). Within Bengal, very different patterns of per capita crop output seem to characterise the area round Calcutta, and Rajshahi region, (where official figures indicated there was an increase from 1920/24 to 1940/44 of over 20%), from the patterns which affected the Burdwan and Chittagong regions, (where there were declines of about 20%)(ibid:52). Islam revises these figures and reduces them by about 20% in each case, giving a picture of stability in the Calcutta and Rajshahi regions, and around a 40% decline in Burdwan and Chittagong (ibid.).

These changes in average income need to be complemented by an account of changes in its distribution. One well established view is that processes of polarization took place during the

nineteenth century , impoverishing the small landholders and thus expanding the rural proletariat. This process was assisted by the destruction of handicraft manufacturing under competition from Lancashire textiles and Birmingham metalworks. It is also argued that the State took an increasing share of the output of the land, and that the share remaining with actual cultivators was further reduced by larger shares going to those groups with a variety of higher rights in the land. Landlord classes were protected by a legal and State system which buttressed their position and led to a great growth in intermediate holders of rights in the land, with the position of the cultivator stagnating and the number of landless labourers growing where there were few before (Thorner and Thorner, 1962:109).

The alternative view which Morris propounded in 1963 and which has found increasing support in different ways, is that regional variations were considerable; that there is evidence of considerable numbers of landless labourers in the pre-British periods and little sign of a proportional increase in the nineteenth century; and that during that period the rise in total output and the increasing commercialisation of the economy suggests a rise in real per capita income which was not restricted to the landholding classes (Morris, 1963). In the early twentieth century it is more likely that stagnation in real levels of output and a rise in the population after 1921 did mean that real incomes fell, and the condition of the lower groups deteriorated markedly (Heston, 1982). Thus Islam suggests that in Bengal, yields for subsistence crops hardly changed, nor did the acreage devoted to them, whereas there was considerable fluctuation in the acreage devoted to cash crops (which adjusted to profitability) and substantial increases in their yields. One implication of his conclusion is that the population dependent on these subsistence crops saw its living standards stagnate or decline, and only landlords able to take advantage of the land pressure and the uncertain urban markets were likely to have experienced a rise in real incomes (1978:201-3).

Similarly, in one area where per capita agricultural output seems to have risen (Bombay), it seems likely that these benefits went largely to the landed peasants. Kumar (1965:318-30) describes how, under the Peshwa rule which the British overthrew in 1818, differences in levels of living were rare, at least among the clean castes. Under British rule, processes of differentiation developed, and the landed peasants came under the dominance of urban moneylenders. However, after the Deccan Riots of 1875 the State increasingly protected their position, but in ways which only the relatively wealthy could take advantage of - restraint on land transfers, new co-operative institutions, and so on. The rising real output of the 20th century could thus be seen as a result of the final establishment of substantial farmers with access to credit, security of tenure and so on - probably the group who in turn benefited most from this growth.

Charlesworth has recently suggested that patterns of inequality in rural India could show rises in the early period of commercialisation (as the Leninist model predicts) but that the increasing labour demand for crops like cotton or sugar could keep rural wage rates rising in real terms. This pattern, he suggests, characterises the Bombay Presidency, with the heyday of the rich peasant in the period from 1880 to 1914, and equalising tendencies becoming more dominant in the 1920's (1977:19) But in some areas (notably Punjab) per capita incomes may have continued to rise, in a society with a relatively egalitarian distribution of resources and sufficient mobility that the really poor were likely to have benefited as well - as in Vilyatpur (Kessinger, 1974). On the other hand, using data on the distribution of landholdings, Dharma Kumar suggests very little change in inequality in South India over a longer period, from 1880 to 1951 (1965).

Most of the historical discussion has been concerned with changes in agricultural, or agriculturally-dependent, incomes

under British rule. We know much less about the non-agricultural workforce of pre-British times, nor what long-term impact was created by British rule. Habib (1982) argues that under the Mughals in North India, the urban population was considerable, perhaps as much as 15% of the total, and that this declined relatively little until British rule was established. But one effect of stable British rule was to reduce the population which had depended on the urban nobility. He thus argues that the urban proportion probably began to decline about 1800, till it reached the 9% recorded in 1891. Dharma Kumar (1965) accepts that in South India too there may have been a decline in the numbers of non-agricultural workers, and that they were forced back into agriculture. However, since there was still an uncultivated margin of land at the time, they did not necessarily become landless labourers.

Within this urban population some categories did begin to grow earlier than 1891, despite the overall decline. While the industrial workforce of India has still not reached more than a very small portion of the labour force, there was some steady growth in numbers from about 1860 onwards, with the establishment of cotton and jute textile mills. Morris (1970) argues that even before this an expansion in the domestic market for textiles may have been sufficient to compensate for the loss of export markets and the intrusion of Manchester textiles. Material on real wage rates for the industrial workforce in these new industries suggests stability over a fairly long period, but as in Europe, conditions for the new urban labour force were often appalling (see further below).

The problems of attempting to assess changes in real income are considerable. However, there is one feature which stands out about the conflicting accounts. In the period (1860-1920) when per capita incomes were either declining (as Mukherji, 1965, argues) or rising (as Morris, 1963 and Heston, 1982 argue) mortality rates appear to have been fairly stable. But in the

period (1920-1950) when even the latter authors accept that income levels probably fell, mortality rates also, apparently, fell rapidly. A regional analysis is not much more helpful, partly because output data for the Princely States is not available. But areas like Central India, where per capita incomes were falling, grew as fast in the 1920s and 1930s as did Western India (Bombay-Sind, in Table 3 above), where per capita incomes were rising (Visaria and Visaria, 1983:490;505). We therefore have to look elsewhere to understand how this might have occurred.

CHANGES IN LIVING PATTERNS

The main change in living patterns which accompanied British rule was the changing nature of the urban centres, and (after about 1900) their increasing significance. At some times British policy inhibited urbanisation - in the aftermath of the Mutiny, for example, they operated a deurbanisation policy in Delhi as ferocious as that attributed to the Khmer Rouge in Cambodia (Klein, 1973). But the colonial cities - Bombay and Calcutta are the prime examples - grew steadily, as did the new industrial towns like Kanpur, Ahmedabad, or Howrah. Here mortality rates were high, not only because of the crowded, unhygienic conditions where workers lived and worked, but also because of the problems of water supply and sanitation. Filtered water was introduced from the end of 1869 in Calcutta, and made a steady impact on mortality from cholera, dysentery and diarrhoea. Similar water works were introduced into other large Indian towns during the next few decades, spurred on by the acceptance of the relationship between water supply and cholera which occurred during the 1890's (ibid:650). However, as Klein also points out, drainage systems were slower to improve, and for many towns urban death rates rose after water supplies were improved, as malaria, plague and respiratory diseases flourished in the conditions supported by surplus water and polluted subsoil (ibid:651; see

also Chapter 3 below).

Under British rule, the population also became more mobile: not only did people travel on the railways, to fairs and religious festivals, but they were also transported some distance to work - and often transported back again. The short-term movements were generally held to have increased the problems of controlling a number of communicable diseases, of which cholera and plague were the most notable.

Of the longer term movements, the most notable and sizeable was that of workers to the new tea estates of Assam and Darjeeling, and to a smaller extent, South India. 'Coolie labour' was hired in Chhota Nagpur or other parts of Central India, taken to Calcutta and thence up river to Assam in conditions which ranged from little short of murderous in the 1860's and 1870's to merely hazardous by the 1920's (Griffiths, 1968). Conditions on the estates themselves were little better: conditions were appalling, even by local standards, and mortality rates were high at least until the 1940's (Rege, 1945). Similarly horrendous losses of life in coal mining (another industry dependent on migrant labour in the early period) made it and tea the industries in which the State first intervened to insist on the provision of adequate medical facilities; but there is little evidence that this did much to reduce mortality before Independence (G.O.I., 1946).

ENVIRONMENTAL CHANGES INTRODUCED BY IMPERIALISM

The major impact of Imperialism on the face of India came in the construction of roads and railways for communication, and canals for irrigation. In each case the goal was at least partly developmental, though railway construction was also affected strongly by strategic considerations. In some parts of India the effect of these improvements was to increase agricultural production dramatically, and to make some areas habitable where a

shortage of water or poor drainage had made cultivation otherwise impossible - as in the Canal Colonies of the Punjab or the Terai in the foothills of the Himalayas.

But canals and improved communications also probably had negative effects on health and population size - an early case of the 'development diseases' discussed by Hughes and Hunter (1970) for Africa but first systematically described by C.A. Bentley between 1907 and 1925 (Klein, 1972). Bentley, the Director of Public Health for Bengal, noted that areas which had been known for their healthy environment in the early 19th century were infamous for being malarious by the end of the century. His argument was that canals and roadworks obstructed normal surface drainage, leaving pools of stagnant water after the monsoon which were ideal for the breeding of mosquitoes. In addition, the labour gangs who constructed these engineering works were a concentrated susceptible population large enough to take the disease with them as they moved on. For the United Provinces (U.P.) Ira Klein takes this argument further and suggests that the deterioration in water supply and drainage laid the foundations for plague and cholera which ravaged the area in the latter part of the 19th century (ibid.). Indeed, Whitcombe notes that canal construction in Western U.P. was halted for a while in the early 1850's because of the dramatic increase in 'fever' which accompanied them. Although preventive measures were taken before starting again, the districts watered by the Upper Ganges Canal experienced higher mortality for many years than did neighbouring districts which remained unirrigated, probably because the canals produced waterlogging and stagnant pools where mosquitoes bred easily. These costs were not foreseen to begin with, though they were increasingly understood, but the appeal of the benefits of higher productivity seem to have overcome the caution of those who stressed the costs.

In general, the changing geography of malaria is by far the most striking example of a 'development disease' in the Indian

context. Malaria followed the march of the canals into Punjab in the 1840's as well as in the later developments after 1890; it made several districts in western and central Bengal lose population in the fifty years between 1871 and 1921, as did several districts in U.P., and most of these districts had some villages almost totally destroyed by the scourge. Klein (1972) summarises this pattern as follows:

> "The spectacle of a great swathe of territory, highly organised economically, traversed by modern communication, suffering no local wars, and experiencing an extremely high birth rate, yet remaining static in population, reveals compellingly the British inability to effect any dramatic change in the balance between life, economic conditions, and nature." (p.13)

South India did not apparently suffer in the same way. Here canals were less important, and they took different forms. The canals in the Madras Presidency were on a much smaller scale, leading to far less water-logging, and there is little evidence of changes in the location of malaria. Population growth in the South may have been hindered more by emigration (to Ceylon, Burma, the West Indies, and Malaya) than by continuing high death rates.

SOCIAL ARRANGEMENTS TO CONTROL FAMINES

Over and above the general attempts to improve agriculture, especially through canal-building, the Government of India and the provincial governments made specific attempts to mitigate the impact of harvest failure. This took a variety of forms: land revenue assessments could be reduced or set aside when crops failed (though they may have been less willing to do this than were the Moghuls); foodgrains were imported from surplus areas; and there were other attempts to minimise social disruption and maintain services. In addition, the growth of communications, especially the railways, helped to provide market mechanisms which minimised the impact of food shortages. On the other side of the coin is the possibility that in some areas pauperisation,

commercialisation and increasing revenue demands from the State were helping to generate the very problems which these provisions were supposed to mitigate.

Perhaps the most significant move was the use of public works as a famine relief measure, in which the poor were offered work at rates which were reckoned to be sufficient to sustain them until the return of normal employment prospects, or until their usual patrons were once again in a position to support them (Kynch, 1985). In general, official policy was to limit the numbers and classes of people on relief works, to restrict the beneficiaries to the 'really' needy (Klein, 1984; McAlpin, 1983:178). The one major exception was the Bihar and Bengal famine of 1873, when an attempt was made to prevent all famine-related deaths; the cost of this attempt was the main argument used against a repetition (Klein, 1984). In addition, gratuitous relief was provided, to varying degrees and of varying quantities, to those unable to work. Governments were under pressure to limit their total expenditure and were wary of the 'demoralising' effects of charity. A third strand in famine relief was the granting of **takavi** loans, at low interest and easy repayments, to allow peasants to employ labour on improvements to their farms (well-digging, etc.). There was a general unwillingness to intervene in the market for grains, after the expense involved when this was done in 1873, but officials noted how the spread of railways tended to permit private marketing arrangements to reduce local shortages (McAlpin, 1983:184-5).

There is some uncertainty about the demographic consequences of these changes. Davis estimates 19 million excess deaths in 1891-1901 due to famine, by comparing actual population growth in the decade with the average growth of the 1880s and 1900s. However, he admits that official estimates of famine deaths in 1896-1901 (the famine years in this decade) were only about 5 million; and even recalculating crude death rates to allow for underenumeration only raises this figure by a million or so

(Davis, 1951:39; Klein, 1984:211-2). The famines of the 1870's and the 1890's do not seem to have received the same degree of careful reconstruction of likely mortality which Sen has provided for Bengal, but McAlpin's figures for Bombay for 1891-1901 suggest that famine and plague together account for a population loss of about 1 million (in a total population of 15 million) with famine accounting for 80% of the reduction (1983:80). Since Bombay accounted for between 15 and 25% of the population affected by famine in this decade, Davis' estimate of 19 million deaths seems extreme. On the other hand, there was a general tendency for British officials to underestimate the impact of famines by using too early a cut-off date and by ignoring the excess mortality in epidemics which followed most famines (see above).

McAlpin (1983:218) produces, for Bombay, the most 'positive' account of the effect of Imperial rule on the control of famines. She argues that by the end of the 19th century, famines were indeed a result of abnormal weather conditions (rather than the pauperisation resulting from British rule); that it was Government arrangements to prevent foodgrain shortages, to encourage better transport and irrigation, and then to limit famine-related deaths, which had the most substantial claim to have caused this improvement. If the experience of Bombay can be generalised, it would suggest that the famines of the late 1890s and the influenza epidemic and famine of 1919-20 were indeed 'abnormal' disasters, and should be separated analytically from the earlier ones.

SOCIAL CHANGE UNDER THE BRITISH

The final area I want to consider is that of changes in behaviour which could have had health impacts. Much has been made in the British and European contexts of changes in such factors

as how often, and how well, people washed themselves; or of changes in human habitation patterns which meant that individuals had a more distant relationship with animals - no longer sharing houses and diseases. What evidence is there of similar changes in India?

The main conclusion has to be that for rural areas there is very little information; what there is must be used with care; but there is little sign of major changes in living patterns of this kind. Cassen (1978) argues that Indian levels of personal hygiene were probably well above those of medieval Europe, but there seems to be no attempt to assess how changes in the kinds and prices of soap or its use might have played any part in mortality decline in India. Similarly, for housing, Islam (1978:138) discusses the early 20th century, and notes that figures on occupied houses say nothing on their size, type or use. He assumes that in a stagnant economy with fast population growth there would be considerable changes in the types of houses over a 25 year period, to cope with higher densities of population, but he has no evidence for this claim, nor to suggest the ways in which change took place.

Slightly more information is available for urban areas. The urban proportion of the population probably fell during the 19th century, as old-established towns (Dacca, Murshidabad, Lucknow) decayed and new ones (Bombay, Calcutta, Madras) grew too slowly to outweigh the decline elsewhere. The urban proportion in 1800 was probably 9-10 per cent or more, and it did not exceed that level until 1931 or 1941 (Gadgil, 1959; Habib, 1972). As in Europe, towns have a reputation for being more insanitary than the rural areas, and for having worse housing and diet. Mortality rates were probably higher in urban areas, despite having a population concentrated in the 'productive' age-groups, and relatively few females (Davis, 1951). But in some ways, the differences from the rural areas have been exaggerated. The residential densities of villages in some parts of the country

are nearly as high as those of urban slums, and rural 'slums' can be as insanitary as urban ones.

Overall, then, it is difficult to argue that British rule worsened living conditions by the creation of unregulated towns. The towns grew only slowly, depending mostly on immigration to do so. While they had high death rates and bad conditions, the differences from the rural living conditions of most of their immigrants was probably minimal. Far from suggesting that urban conditions were bearable, this merely draws attention to the appalling conditions for the rural poor at the time. Since the contrasts in living styles between urban and rural areas are difficult to locate and evaluate, it seems reasonable to conclude that we cannot look to urbanisation for any evidence of changes in patterns of living during the 19th and early 20th century.

CONCLUSION

I started this chapter by pointing to the conundrum of a population rising because of declining death rates, when most estimates suggest not only no improvement in living standards but indeed a decline, caused in part by the rise in population itself. The answer seems to be that mortality decline should be seen as taking two forms: a decline in the underlying mortality rate (that applying in normal years); and in the peaks of mortality, in years when famine and epidemic diseases operated together.

The decline in the underlying mortality rate probably dates from the middle of the 19th century, and can be understood in terms of rising real incomes. The benefits provided by this higher standard of living was possibly sufficient to outweigh the income declines of the 1920s and 1930s, thus allowing for an increase in population growth rates from 0.3 or 0.4% per year in the 19th century to 1 or 1.5% per year by the 1920's and 1930's,

with almost all of the change accounted for by a decline in the death rate. The most plausible explanation for the cuts in peak mortality is the operation of famine policies which ensured a minimum income for the poor in times of scarcity. These famine policies, and other changes (such as the role of railways in moving grain) did not become fully developed until the last quarter of the 19th century. This probably helped to reduce the mortality rate in peak years, except for the unusual late famines and epidemics of 1896-1901 and 1919-20. The two processes working together help to explain why areas which were unaffected by these disasters saw unhindered population growth from the 1870s.

However, I have not so far considered the impact of social arrangements specifically designed to deal with health and disease, which Davis (1951:38) saw as controlling epidemic diseases at the same time as public disorder and famines were being brought under control. Chapter 2 will therefore look at the nature of so-called 'indigenous' medicine, and assess the arguments which suggest that it lost its ability to contribute to the control of disease as a result of British rule; while Chapters 3 and 4 will assess the nature of the medical services introduced by the British, and supposed (by colonial apologists) to have caused the decline of epidemic and other diseases.

CHAPTER 2

INDIGENOUS MEDICINE AND THE STATE BEFORE 1947

Every society has some healing techniques, some explanations of health and illness, and some members who know more about these things than do others. But the form these medical systems take are very variable. The kinds of treatments, the classifications of diseases, the forms of the division of medical labour, are all subject to social and other forces which produce very different results in different parts of the world. These forms, and their historical development in particular, are imperfectly understood. Medical anthropologists have developed complex ways of drawing links between medical and other symbolism, showing parallels between the structure of religious and medical belief systems, for example, and ways of distinguishing healers and their inter-relationships. These give us some understanding of the integration of medicine in culture now, but similar evidence for the past is rarely available.

The major world literary medical traditions are those of Greece, India and China - all three coming from the Eurasian cultural systems described (by Boserup, 1970, and Goody, 1976, among others) as complex stratified structures, and radically different from African or tribal societies. This is not surprising, since one defining characteristic of Eurasian societies is the development of literacy among the elite. Many of the accounts of the history of medicine have been concerned only with the comparative assessment of these literary traditions. Attempts to decide which tradition borrowed from others, and which generated ideas; to assess which tradition has claims to 'science'; or to decide how far core ideas spread, have been most prominent.

For Indian medicine, there are two main traditions to be considered - **Ayurveda**, associated with Hinduism, written in Sanskrit, and practised by **vaids**; and **Unan-i Tibb** ('the medicine of Greece'), associated with the Muslims, written in Persian, Arabic or Urdu, and practised by **hakims.** The major **Ayurvedic** sources consulted by historians of medicine have been the compilations of medical principles and therapies known as the **Caraka-samhita** and the **Susruta-samhita**; a third text (the **Astanga-samhita**, associated with **Vagbhata**) is often regarded as of less significance. Most commentators suggest that these texts emerged over the course of several centuries, and received a form which remained fairly fixed during the first 500 years A.D. For **Unani** medicine, the **Qanun** of Avicenna has been the main textbook, with commentaries and elaborations published in India in the 13th century A.D. and frequently reproduced and elaborated (Ullmann, 1978:52). These texts are primarily concerned with diagnosis and treatment, much like a modern medical textbook. The multitude of commentaries, drawing to a greater or lesser extent upon these classical sources, have similarly been concerned to demonstrate an individual author's skill and breadth of learning. Any indicators of the social context within which medicine was practised have to be winnowed very carefully from sources such as these.

The major questions for a sociologist of medicine in India are what treatments were available for different groups of the population and which kinds of practitioners provided them in what insitutionalised ways. But the literary sources only provide a way of looking at the practice of high-culture, or learned medicine. Alternative practitioners are dismissed in these writings. Thus, in **Susruta** there are comments that the king's carelessness has led to quacks being able to practice; and in **Caraka** there are several sections which complain of "cheats who wander about on the streets boasting in the garb of physicians" (Kutumbiah, 1962:liii).

Ullmann (1978:49), dealing with Islamic medicine, also notes that the names which have survived are those who doctored rulers, or were perhaps employed in academies. Only the large cities had resident doctors of this class. Yet, if current patterns are anything to go by, 'unofficial' practitioners, or others who did not claim a high status, were the major sources of medical advice for the mass of the population. They cannot be dismissed, as so often happens, as 'quacks or very ignorant doctors' (ibid.).

I assume that medical practice in a stratified society is also stratified, as well as distributed along the kind of continua described by Leslie (1976). Healers may be located on a learned-folk continuum, and on a religious-secular dimension. Individual careers may move some healers from one category to another, and clientele will tend to have different kinds of relationships to the different kinds of healers. The elite sector will include those who serve the centres of economic and political power, and they characteristically join the 'courts' of local, regional or national rulers. The rulers thus become patrons, with healers maintaining their positions by accommodating their advice to the demands of the patron, and defending their own positions at court by denigrating the claims of others (Johnson, 1972). It is the writings of these healers which have been collected and transmitted, often by their students and families when they have inherited their positions, but the picture they give of medical practice is inevitably restricted and partial. Leslie (1976:3) argues that the complex reality of bone-setters, midwives, shamans and so on was 'ideologically simplified by the distinction elaborated in the texts between quacks and legitimate practitioners.' But he quotes no evidence to support his plausible view. Indeed, there seems to be very little material available for the period before the mid-20th century.

In this chapter I will be less concerned with the techniques of **Ayurvedic** or **Unani** physicians than with attempting to portray

their position (and those of folk practitioners of various kinds) in Indian society from the early-19th century onwards. Most healers, especially in the literate traditions, have been assumed to have been male, but I will deal with female healers and women's access to medical care in a separate section. I will then look at the impact of British rule on these practitioners. Since the 'revival' of **Ayurveda** (and to a lesser extent, of **Unani Tibb**) after 1900, its supporters have claimed that a major cause of its decline in status and scientific standing was its loss of official patronage under British rule. More recently Banerjee (1974) has argued that village medicine was similarly destroyed with the collapse of village economy and society under the impact of commercialisation and alien rule. Assessing the validity of these arguments will form the conclusion of the chapter.

INDIGENOUS MEDICINE: THE CLASSICAL TEXTS

Ayurvedic medical thought is based on a principle of three-fold humors, **dosas** or **dhatus**, often translated as wind, fire and water or as wind, bile and phlegm. Life is in a state of health when these humors are balanced, and diseased when they are imbalanced. But individuals at different stages of the life-cycle are also characterised as being dominated by different humors, as are different times of the day, and the seasons (Jolly, 1977:49). Each humor has five kinds, according particularly to where it is found: and much diagnosis and treatment consists in determining which kinds of humor are in excess or insufficiency, and in remedying this. For example , foods have their characteristic qualities, of which the most important are 'hotness' and 'coldness', 'wetness' and 'dryness', and can thus be used to counteract imbalances. Other remedies include blood letting, inducing vomiting, using enemas, or taking in medicines by nose, or in the form of eye-drops. **Susruta** also contains sections describing surgical treatments.

The causes of humoral imbalances are manifold: not just errors in diet but also excesses of everyday life - too much, or too energetic, sexual intercourse, anger, or exertion, for example. Diagnosis, therefore, should cover all these possible causes in taking a history, or making a medical examination: but pulse-taking is the most prominent diagnostic tool described. The pulse may be taken in particular places for particular kinds of patients, and not just its speed but many other characteristics should be noted by the skilled practitioner. Prognosis is also of some concern, since practitioners should not treat incurable patients (a position scorned by late-19th century British doctors as unethical): the signs for prognosis often seem more mystical (depending on reading omens such as the time the physician is called, by what kind of messenger, etc.) than the apparently practical concerns of etiology and diagnosis.

There are considerable similarities between Hindu and Greek medicine, and there have been a number of discussions of the possible means by which one might have derived from the other, or how they might have developed through mutual interaction (Banerjee, 1981; Kutumbiah, 1962). Indeed, Filliozat (1964) subtitles his work on Indian medicine 'Its origins and its Greek parallels'. From the 7th century A.D. onwards the possible sources of interaction are complicated by the rise of Arab medicine, (which provided an additional channel of communication), and increasing contacts with the Chinese. The Muslim invaders of North India from the 12th century onwards brought their own physicians with them, and established secular healing traditions as well as healers associated with the shrines of Muslim saints. The history of the spread of these healers, and their typical practices, is less well recorded than that of **Ayurveda**, but the idea of humoral balance, and the kinds of intervention to restore and maintain this balance, are not very different from those of the **vaids**. It is probable that both the pharmacopoeia and the therapeutics of **Ayurveda** and of **Unani Tibb**

changed as a result of the interaction between them, during the Mughal Empire in particular (Metcalf, 1985:5).

The final category of medicine often now included as 'indigenous' is homoeopathy. This was introduced by British and other European doctors in the course of the 19th century, and it excited strong passions: the Bengal Medical Association split and foundered on opposition to the reading of a homoeopathic paper. Homoeopathy seems to have appealed to the new urban elite as a 'modern' system of medicine which nonetheless did not demand too great a break with traditional ideas, referring (as Hahnemann does) to vital forces and to moral powers (Bhardwaj, 1981). The extent to which Indian homoeopathic practitioners practised a 'pure' version of homoeopathy, or have adapted to other dominant medical ideas, is unclear. By the 1960's it would seem that many 'homoeopaths' merely used the title and the correspondence training as a route to registration, before using a variety of medical traditions in their practice (Montgomery, 1976).

MEDICAL PERSONNEL

> 'The science of life was to be studied by Brahmans, Kshatriyas and Vaisyas. Brahmins were to learn it for doing good to all creatures, Kshatriyas for self-preservation, and Vaisyas for gain. **Susruta** asserts that some say a Sudra of good family and character may be admitted as a pupil.' (Kutumbiah, 1962:xliv)

It is not clear how far these general statements of **Caraka** were important in defining who was admitted as a student of **Ayurvedic** medicine. Apart from scattered references to monastic or university education in medicine, most texts assume that the study of medicine involved being attached to a teacher as an apprentice and living as a member of his household (Kutumbiah, 1962:xlix). This must have placed great pressure on teachers to admit only students of the same, or a closely related caste, since there would otherwise have been difficulties in the arrangements for eating and other close contact. Perhaps for this

reason, different regions tended to have dominant medical castes (**vaidyas**, a **vaisya** caste in Bengal, a Brahman sub-caste in Kerala [Zimmerman, 1978]). Education, according to the classic texts, involved memorising a text and its comprehension, alongside practical experience, and it would take several years before students would be permitted to establish themselves separately. It would seem that training in **Unani** medicine was also carried out in the "personalistic, informal settings of family homes and apprenticeship" (Metcalf, 1985:4), and again, quite apart from the need to learn Arabic, this would have tended to restrict **Unani** education to Muslims.

Successful practitioners were those who served successful rulers, and either through their regular service or because of some special healing act, were granted an area of land (under the Mughals, a **jagir**) to support them and their families. It is not clear how often these grants were supposed to fund specifically medical activities - a dispensary, or small medical school - or were grants to the man and his heirs even if they ceased practising medicine. The British, on taking over an area, were prone to try to reappropriate these grants unless there were special circumstances which warranted their remaining. Leitner (1882:152-3) campaigned on behalf of indigenous educational institutions in Punjab, and mentions a family of **hakims** in Kalanaur who had previously run a medical school. On the loss of their **jagir** they were reduced to a mere 4 or 5 private students. A family of **vaids** in Amritsar who had lost their **jagir** still ran a dispensary.

Not surprisingly, the **Ayurwedic** texts discuss the appropriate behaviour of practitioners towards their king. Basham (1976:31) suggests that to serve a king would have been the highest ambition of an enterprising **vaidya**. Both **Susruta** and **Caraka** discuss the proper status of a **vaid** in a king's household, and set out what **vaids** owed their king (to work for his health and longevity, and to refuse to treat those who hate the king or

are hated by him) and what they were entitled to in return (protection from competition by quacks and charlatans) (Wise, 1845:19).

WOMEN'S ACCESS TO ELITE MEDICINE

It is generally assumed from historical accounts that all these practitioners were male. As Leslie (1976:3) puts it, "Women were not educated in medicine, and the perspective of the classic texts was masculine". Learning the secrets of the medical art required a high level of literacy and usually only males were supported in education long enough to acquire the necessary facility in Sanskrit or Arabic; apprenticeship as a **chela** to a learned **vaid** or **hakim** was almost inevitably a relationship for young men; and the accounts of practitioners are entirely about men. Apart from isolated examples (one female **vaid** reported by Leitner [1882] in Ambala District, Punjab, for example) the earliest exception to this pattern seems to be the appearance in the early Census volumes of women recorded as **vaids** or **hakims.** Unfortunately, the Indian Census is not to be relied on when it comes to occupation, especially not for women's occupations. Thus in 1881 and 1891 it is clear that widows were recorded as following the occupations of their late husbands. These cases were apparently excluded by 1901, so later examples might be more significant. However, little credence can be given to the absolute totals. Women doing such work were likely to be missed from the returns, because they, or their husbands, might be ashamed of their need to work, or their association with pollutions such as those of death; or because their work was only part-time. On the other hand, others may still be recorded with a family occupation. Later Censuses record women in different medical categories, but these figures are 'contaminated' by those who have received training in the new institutions of modern medicine, as nurses as well as doctors, and the social process of recording their occupations remains variable and opaque. The

fascinating question of the extent to which the wives of indigenous practitioners were also practising medicine (in association with their husbands or separately), is an almost totally closed book.

How far were these male 'learned' medical practitioners in India able to deal with 'women's diseases'? Kutumbiah (1962) notes that the 'mythical' **Ayurveda** (before the main texts were written) did not apparently contain discussions of either obstetrics or gynaecology, and he infers that obstetrics was at that time handled entirely by midwives, with women not readily seeking the help of physicians. **Charaka** and **Susruta** do include sections on childbirth, but largely confine themselves to instructions for the preparation of the labour room. It seems to be regarded as necessary for a Brahman to be present (to carry out purificatory procedures) as well as experienced women who are to act as midwives, but there is no specification of the role of a physician or surgeon. The argument that **Ayurvedic** medicine was never able to throw off the superiority of Brahmanic control suggests that the link between **Ayurveda** and childbirth was never a strong one (Chattopadhyaya, 1977). The impurity associated with childbirth, may have inhibited both women's willingness to consult male healers, and the healers' willingness to be involved. It may thus be necessary to distinguish obstetrics (suitable only for unclean women) from some aspects of gynaecology: even this distinction may break down when it comes to disorders of menstruation.

There are descriptions of the diseases of menstrual flows in the classical Ayurvedic texts, and several sources list 20 diseases of the female organs. But this evidence is inadequate as a guide to the significance of physicians following these systems in actually treating female illnesses. We can say even less about the practice of **Unani** medicine (probably more widespread in much of North India than **Ayurveda**). It could be that there were thriving male practitioners whose clientele included substantial

numbers of women, though it seems likely that they would not be consulting for gynaecological or obstetric reasons. There are very few accounts of the clientele of **vaids** and **hakims**; they themselves left only codifications of the state of the art as they knew it, while observers' accounts are sparse and only develop towards the end of the 19th century. It does seem that **hakims** and **vaids** were largely urban-based, and probably the fees they expected were high enough to restrict their clientele to the relatively wealthy. But Western observers were not unbiassed, since those most concerned to comment on the state of medical practice in India were British doctors and officials who wanted evidence to limit the role of indigenous medicine and promote cosmopolitan medicine.

There is really no evidence to suggest that the high-culture medical systems had much to offer women, especially for 'women's illnesses'. The texts are not well-developed, the practitioners were male, and women would have been inhibited in their access to them. This does not mean that a sub-world of 'female' medicine did not exist, but it seems unlikely.

The other major source of 'learned' advice on medical matters were religious healers, and there are some reports about the extent to which women approached religious sites for medical care. Shrines and temples in India are still prime consultation sources, women usually seeking cures for infertility or the absence of male children, or for illnesses which may have a strong psychological component (Kakar, 1982). Muslim divines (**maulvis** or **mullahs**) offer **Ta'weez** (amulets) at **madrassah** (religious schools) or mosques; there are also **bhagats** (spiritual healers) who operate in a variety of traditions; and shrines and temples also attract religious and secular healers who practice in the courts or surrounding areas (ibid; Pfleiderer, 1981). In general, South India seems to have a stronger tradition of healing associated with temples (perhaps because of the absence of Muslim rule). These patterns which exist today are probably of

long standing; but of course we have no real evidence of the extent of consultations nor their distribution by sex or illness category. It does, however, seem that women use these sources more than men do: it may be that women's illnesses are more often regarded as of spiritual origin, but this also raises the question of why women are able to consult religious practitioners more than medical ones. The most obvious explanation is that of **parda**, or seclusion practices, which not only inhibit women's access to the public sphere where their modesty might be compromised, but also limits their access to cash, and to legitimate reasons for leaving their home.

Parda is more developed in North India than in the South, and a graphic description of its effects on women's access to male medical care is provided by one Lala Luchman Narain, who funded a midwifery class in Bareilly (U.P.) in 1867:

> "It is considered indelicate and indecent by us to allow a doctor to look into a woman's private parts: most of us would rather let their dear wives and daughters die than allow them to be examined by a male." (N.A.I. Home, Public, 1872, 266-7A)

Thus **parda** probably seriously restricted the access of 'respectable' women to medical care: male practitioners could diagnose and treat them at a distance but could not do much more, though this may have excluded relatively few of the traditional diagnostic techniques. Poverty, high fees, and more general barriers were more important for the great majority of women. Probably only female practitioners would be apprached with any ease by women, but this is the category we know least about.

MALE FOLK MEDICINE

Leslie distinguishes between 'folk' healers (bone-setters, snake-bite healers and so on, usually part-time); 'popular culture medicine', using patent drugs, popular astrology and religion as well as faith in modern science; and 'homoeopathy',

which has, in Bhardwaj's (1973) term, become 'naturalised' in India. But it is impossible to draw clear lines between the different kinds of male practitioners and these distinctions break down when faced with individuals and groups who not only straddle these categories, but also merge into the 'learned' categories, whether indigenous or Western, religious or secular. Thus as early as 1839 an Indian observer in Bombay described 'English doctors' who were from families of **vaids** but administered English medicines, on the basis of no formal education (Leslie, 1974:97). After 1912, the Medical Registration Acts produced a clear way of marking off 'registered' doctors, and forbad the registered from collaborating with the rest. Indeed, these Acts probably gave indigenous practitioners more sense of unity than they had before, especially when they were used to penalise Western doctors who collaborated with indigenous practitioners, or to withdraw assistance from indigenous clinics (Steinthal, 1984:77).

There is no account of changes to the position, number or type of these kinds of practitioner during British rule. Some of them seem to have been included in the general category of **hakim** or **vaid.** Thus Wise (1845:V) suggested that only 4 or 5 **vaids** in Bengal outside the cities were acquainted with the Sanskrit texts. Similarly, the official who began schemes to use **hakims** in Punjab in the 1860's, T.W. Mercer, included in this term those who seemed to own no pharmaceutical texts, could not read Arabic, and were 'profoundly ignorant, superstitious and unscrupulous' (quoted in Hume, 1979). Professionalising and modernising practitioners referred to these groups merely to disparage them, and British reports are little better.

Two points seem crucial in assessing how the positions of these groups might have changed. Firstly, whatever happened to the village economy, (i.e., whether or not there was polarisation) their traditional clientele would have remained, providing either the small payments of large numbers of the

relatively poor, or the more substantial fees of the landed peasantry. Secondly, competition to these groups was limited, and controllable. Thus few villages had resident allopathic practitioners before 1960 or had easy access to towns where they were available; the increasing numbers of commercial sources of drugs and other remedies would be circulated as much through these practitioners as by their allopathic competitors; and village practitioners seem to need a social base within the village to be successful. Any claim that the condition of these male folk practitioners was undercut by British rule must remain, at best, not proven.

FEMALE FOLK MEDICINE

If the Census can be believed, most of the female medical personnel were midwives (**dais**). (For more elaboration on the material in this section, see Jeffery, Jeffery and Lyon, 1985.) Reports about **dais** appear in official documents in the later part of the 19th century, and they all argue that the **dai** was never anything other than an illiterate, usually middle-aged or old woman, whose only qualification was her experience. Furthermore, because of the pollution associated with childbirth, they were predominantly drawn from the untouchable castes. British doctors were adamant that the **dais**, even those prepared to take courses in what passed at the time for modern midwifery, were a danger to their clients, and the records abound in comments on their lack of intelligence, their dirty habits, and their incapability of learning new methods.

This evidence about the quality of midwifery is, of course, inadequate as a basis for much generalisation, but it represents almost the only kind available. We just do not know the extent to which the **dai** offered additional services, such as abortions, advice and treatments for menstrual problems, massage, or any other similar services for reproductive disorders. Nor do we know

much about the efficacy (however defined) of their services. However, three arguments can be stated. One view would be that women's knowledge and referral systems would by their very nature escape the kind of male enquiry which would yield historical data, and that it is wrong to assume that an oral tradition cannot develop valuable skills. A second argument would be that some information would surely have survived, and that the women involved were drawn from such disadvantaged castes and themselves regarded midwifery as so dirty, that it would be surprising if women took up the occupation willingly, or if they were capable of developing a strong chain for transmitting skills handed down by mothers or mothers-in-law. A third argument (arguably the most plausible) is that female healers in stratified societies are likely to be stratified themselves, and more sophisticated support would be available to wealthier women than to the rest.

None of these arguments, of course, leads to the conclusion that most women suffered and died without any assistance. The issue is really about the extent of their access to **public** sources of medical advice, and the quality of the advice they were able to receive. There are, of course, household medicines. These are not, of course, insignificant resources, but it seems likely that both men and women had access to these household remedies, whereas men also had much better access to the public sphere when home remedies were felt to be inadequate.

BRITISH POLICY TOWARDS INDIGENOUS MEDICINE

Before the 19th century, there is little evidence of a fixed British policy towards indigenous medicine. This is partly because of the main aims of the East India Company: trade and later the collection of land revenue. Policy, in a wider sense, only developed as the Company realised that it had to govern increasing numbers of people as a result of its expanding territorial control. Not until the end of the 18th century did

the Company establish hospitals in the Presidency towns; and only in the course of the 19th century did it establish educational and medical policies aimed at the wider population (see Chapter 4).

However, the actions of some of its employees give some evidence of the kind of direct impact that they might have had on indigenous medicine. It took three main forms. Firstly, some Company officials consulted indigenous healers: Crawfurd (1914) notes that there seemed a general view in the late 17th century amongst British officials that the diseases of the country were best taken to the doctors of the country. Secondly, European doctors were employed as consultants by some members of the Indian elite, either displacing or competing with indigenous healers. Thirdly, some Indians were given training in European medicine, either as part of a deliberate expansion in medical services for the Army, or in a more informal way. Thus 'native doctors' attended informal classes at the civil hospital in Calcutta at the end of the 18th century (Leslie, 1976)

These patterns began to coalesce at the start of the 19th century. In 1812 the Court of Directors in London encouraged its employees to find out more about local medicines and medical texts, on the grounds that these might prove very useful (Basu, 1936). The informal training scheme at Calcutta was established on much more substantial grounds in 1822, as a 'Native Medical Institution', teaching indigenous and European medicine. The Muslim **Madrassa** and the Hindu Sanskrit College (both established with European patronage) had already incorporated some European medicine and anatomy into their courses. But these processes of common involvement were disrupted by the change in policy in 1835. This was the year of Macauley's Minute on educational policy, where he argued that European culture should provide the curriculum of schools and colleges. This strengthened the opposition to schemes which attempted a

mixing of European and Indian cultures, or were designed to restore Indian culture to its presumed glory. In medical education it meant that the N.M.I. ceased teaching aspects of **Ayurveda** and of **Unani Tibb.** The whole institution was remodelled as a medical school, teaching only European science, for a while only in English.

While this move had obvious significance, it did not mean a total ban on such teaching, nor on co-operative relationships between the British Raj and indigenous practitioners. As Hume (1977) has demonstrated, for example, in Punjab the Provincial Government employed **hakims** (**Unani** practitioners) in the 1860's and 1870's, usually as vaccinators and health extension workers. In addition, the Lahore Medical College had taught some **hakims** and **vaids** as part of the courses in **Ayurveda** based in the Dayanand Anglo-Vedic College, and **Unani Tibb** at the Islamia College, from 1887-98; the University of the Punjab continued to validate these courses until 1907, when there were very few students (see also N.A.I. [E.H.L.], 1919:July:26-51 A).

One reason for the tolerance displayed by the State is that its own services reached a very small section of the population, and there were very few practitioners who had been fully trained in its medical schools and colleges, before the end of the nineteenth century. The graduates from the first four medical colleges (Calcutta, Bombay, Madras and Lahore) were mostly employed in the growing State bureaucracy - in the army, the jails, the railways and so on (anon, 1866). The 1872 Census of Bengal, for example, enumerated only 3,769 physicians, surgeons and doctors, but over 23,700 'Gobaidyas' and 'Kabirajes' (**vaids**)and over 400 'hakeems'; and the 1871 Census of Madras reported virtually no Indian doctor trained in European medicine in private practice in the city. The medical bureaucrats were aware of the strength of the indigenous groups in the 1880s: plans to introduce medical registration were dropped because the graduates from the Government colleges and schools were thought

too weak politically to overcome the expected hostility from the **vaids** and the **hakims** (Seal, 1968).

A change to more self-confident hostility to indigenous medicine within the medical bureaucracy can be dated from about the end of the 19th century. By this time the cream of the Western doctors in India - the Indian Medical Service - was more conscious of its claims to a scientific legitimation; the number of Indian medical graduates and licence-holders was substantial, and they were offering a real challenge to the primacy of indigenous healers in the major towns; and the growth of a new middle class provided new financial opportunities for both groups (Jeffery, 1979). The early twentieth century saw considerable political conflict over medical issues as the rising bourgeois nationalist movement embraced the cause of Indian cultural renaissance as well as the idea of science. Indian practitioners responded to threats to their position (such as the Medical Registration Acts passed in all the Provinces between 1912 and 1919) with more assertive claims to their own scientific status, and the Indian National Congress included leading indigenous practitioners in its ranks as well as modernisers like Nehru (Brass, 1972; Croizier, 1972).

The Imperial Government was not united in its views: some of its members wanted to maximise the distance between themselves and the 'superstitious mumbo-jumbo' of indigenous medicine; others were willing to lend their prestige to new private medical schools, some of which combined indigenous and Western techniques in 'integrated' courses, as a way of bringing up their standards.

The hostile position was clearly expressed by the Provincial Governments' medical advisers (senior members of the I.M.S.) at the end of the First World War. They argued that the Indian systems of medicine were archaic, incapable of advance, and based on unsound principles. The adviser to the U. P. Government argued

"there is no reason to run away from a frank declaration

> of our conviction that Western science includes all that is of any value in the **Ayurvedic** and **Unani** systems; that it is progressive where they are stationary; and that its popularity and prestige are continually on the increase". (N.A.I.[E.H.L.] 1919:July:26-51 A.)

Most of these administrative doctors equated the Indian systems with quackery and imposture; but they appreciated that there were political reasons why this could not be said. The Director-General of the I.M.S. at the time noted that the indigenous systems had an advantage in cheapness, with low fees and low-cost education: but that this should not be regarded as sufficient grounds to divert funds away from 'scientific medicine'. However, he recognised the nationalist support for these systems; and argued the need to counter the view that the only reason for the decline of the Indian systems was the effect of European rule, by asserting the greater efficacy of Western medicine (ibid.).

The more supportive viewpoint was expressed by Sir Pardey Lukis, (Director-General of the I.M.S.from 1911-17) speaking on behalf of the Government of India, in 1916:

> 'The improvement of the training of **hakims** and **vaids** is a part of the present policy of Government .. (because) .. for many years to come, they will constitute the medical attendants of by far the largest portion of the Indian community.' (N.A.I. [E.H.L.] 1919:July:26-51.)

A clearer view of how these divisions affected policy towards indigenous medicine can be seen from the responses to attempts between 1910 and 1920 by **vaids** and **hakims** to gain sponsorship from the Imperial State, and to minimise what they saw as the negative effects of Government policies such as the Medical Registration Acts (N.A.I.[E.H.L.] 1919:July:26-51 A). In 1910 **vaids** in Calcutta unsuccessfully asked for State support for a new **Ayurvedic** college, but Lord Hardinge, the Viceroy, agreed to open the **Unani Tibbia** College in Delhi in 1916, against the wishes of his chief medical adviser. This College's moving spirit, Ajmal Khan, asked for a meeting with the Home Member of

the Viceroy's Council in 1914, to discuss the Medical Acts, the employment of **vaids** and **hakims** by the Government, and aid to their institutions. The medical adviser's opinion was expressed forcefully: he saw the schemes of integrated teaching of European and Indian medicine as 'farcical'. But Hardinge addressed the College in 1916, and laid a Foundation stone, largely because of Ajmal Khan's personal position as a leading Muslim (Metcalfe, 1985:7-8). Much to the embarrassment of many of his medical advisers, he said that the rural poor would have to be reached by a modernised indigenous system of medicine; and a resolution in the 1916 Legislative Council meeting calling for the scientific investigation of the indigenous systems was enthusiastically welcomed by Pardey Lukis and later quoted by Ajmal Khan in support of his position (ibid.)

The reforms of 1919 meant that the nationalists were given positions where they would, in theory, be able to implement policies in opposition to the views of their medical advisers. Indians became Ministers of Health and of Education. The British expected them to try to implement policies based on nationalist views. However, in practice, their scope was limited by severe financial restrictions, and their impact was further reduced by pressures from the Indian Medical Service, with overseas pressures being orchestrated by the British Medical Association, the General Medical Council, and the medical advisers to the India Office in London. The new Legislative Councils supported the 'Indian' systems of medicine on both patriotic and economy grounds, but Ministers in several Provinces (Punjab and Bombay, for example) resisted this and used their limited funds to attempt to bring 'modern scientific medicine and surgery within reasonable reach of all', spending only small sums on research into the indigenous systems and for improved training (Indian Statutory Commission, 1928:256-67). As a result, relatively few indigenous medical colleges were given State patronage; the schemes of medical registration continued to exclude those who had not received Western medical training; and the Government of

India restricted its activities to an investigation into the pharmacopeia of indigenous drugs.

The Medical Registration Acts drove a wedge between indigenous and Western doctors after the First World War. Western doctors who offended the imported British ethical codes and collaborated with indigenous practitioners, either in the new colleges or in daily practice, were threatened with deregistration. The wedge was driven deeper by the disputes over the recognition of Indian medical degrees by the General Medical Council in London, which occupied much of Indian medical politics in the inter-war period (Jeffery, 1979). When the Indian Medical Association was established in 1928 the early leaders, also prominent in nationalist politics, called for the admission of indigenous practitioners (if they were 'sincere'). By the mid-1930's, when these leaders were being incorporated into the new Indian Medical Council and other positions of influence, they had already drawn back from this support because policies of integration would have led to a loss of international recognition for Indian Western doctors.

As a result, when indigenous practitioners were first registered in Bombay in 1938 they were on a separate register from that of the Western doctors. They were initially accepted on the basis of experience or apprenticeship. Only after a four year delay was qualification to become the sole means of registration (though an amendment in 1949 made exceptions and led to the admission of some new practitioners on the basis of experience). The Bombay Act was held up as the model for legislation after 1947.

THE IMPACT OF BRITISH RULE ON INDIGENOUS MEDICINE

As I argued in the Introduction to Part A, it is useful to divide the British period into three phases in order to assess the course of developments. In the first period (before 1860) the

main impact of British rule on indigenous medicine would have come through the disruption and eventual disintegration of much of the structure of the ruling elite and its courtly life. Here the most successful indigenous healers could have expected to earn substantial sums, and to have been rewarded by economic security during their own lifetime through the grant of land rights. The British greatly reduced the size and income of these groups, and elite practitioners would have suffered along with other occupations dependent on them; in addition, competition from European doctors might also have affected their position. In the 19th century, it seems unlikely that they would have received any patronage from the British rulers, so there was probably a substantial decline in their position. Official policy towards these healers, beyond their exclusion from official positions, probably made little difference. The position of folk healers probably fluctuated more closely with local economic conditions, benefiting from increasing commercialisation where the new settled order led to an expansion of output, and suffering when enhanced revenue demands reduced the surplus held locally.

In the period from about 1860 to 1920, the loss of elite patronage was steadily compensated by the growing middle class market for medical services. Indigenous healers seem to have been able to hold their own against competition in this market from Western-style doctors, European and Indian. The growth of this market made possible and also lent support to moves to institutionalise training and provide a clearer pattern of requirements and standards than was possible under the older system. Thus elite practice began to emulate British models not merely because the British institutions had higher prestige, and State backing, but also because the market conditions for indigenous medicine permitted this kind of occupational organisation (Johnson, 1972). Official policy, while increasingly hostile, and based on growing arrogance amongst medical bureaucrats, was probably limited in its impact. Once again, we have little information about folk healers, though if (as I

suggested in Chapter 1) agricultural incomes generally rose in this period, there is little reason to believe that they would have suffered.

The inter-war period showed gains and losses for indigenous practitioners. On the one hand, colleges were established, beginning to replace the less respectable **guru-chela** form of apprenticeship which had previously been the sole training method. Several of these colleges were well-funded, especially in Delhi, Madras, and the Princely States of Mysore and Hyderabad, for example. Indigenous practitioners also had the support of the reports of special Government committees set up to consider policy towards them (summarised in the Chopra Committee Report, 1948). On the other hand, their subordinate position relative to cosmopolitan medicine was reinforced by registration patterns. Previous strategies of raising status (e.g. through joint teaching and practice with cosmopolitan doctors) had received a severe blow, and the nationalist Health Ministers proved incapable of channeling substantial public funds in their direction. Official policy now lost most of its coherence, with the muting of criticism because of the strength of nationalist political groups. But one of the underlying principles of medical policy - to spread 'scientific medicine' to the mass of the population - continued to operate. There were increasing numbers trained in the medical colleges and schools, and they found employment and income in private practice as well as in the growing State bureaucracy, as hospitals and dispensaries spread and were used by more and more people.

REASONS FOR THE DECLINE OF INDIGENOUS MEDICINE

The 'fact' of decline seems to be relatively well established, but only in a social sense. It seems to be highly likely that the average social position of the more successful **vaids** and **hakims** deteriorated during British rule. This may be

correlated with a decline in the 'quality' of care and services offered, but this link is not so clearly established. Three main reasons can be advance for the decline: the lack of unity of indigenous practitioners; the active policy of the State; and the fact that indigenous treatments were seen by their clientele to be less effective than the Western alternatives.

The weakness of the indigenous practitioners was partly a result of their own internal divisions. Not only were the two main groups separated by linguistic, theoretical and religious differences, but there was also the newer group of homoeopaths, established particularly strongly in Calcutta and Bengal. With the rise of communal politics in the 1930's it was increasingly difficult for the **vaids** and **hakims** to act together. There were also tendencies within each group leading to divisions. Each elite group had a variety of career patterns, usually locally specific, with little agreement about diagnosis or techniques. Often, a noted local teacher would prepare his own commentary on the traditional texts, and the school which grew up around one teacher would deride and vilify that around another (Leslie, 1978:412). In addition, the process of professionalisation led the elite groups to attempt to distance themselves from the others - the practitioners of unsystematic folk medicine or partly-trained **Unani** and **Ayurvedic** healers. Finally, there was the growing ideological split between those who wanted integrated teaching of cosmopolitan science and indigenous therapeutics, and those who considered the pure indigenous training sufficiently scientific. This divide dominates the post-Independence debates (Brass, 1972).

The modernising nationalists used one main argument to attack British rule and to defend their own position: that the withdrawal of State patronage led to a decline in the 'scientific' level of most Indian healers. As Leslie (1974) notes, this is poor history, since there is little evidence of a consistent pattern of hostility to indigenous medicine on the

part of the British, nor much evidence of a more 'scientific' indigenous medicine being practised in the Princely States, where patronage was not lost. However, given the relationships which existed between elite practitioners and their patrons, the loss of patronage would have had a considerable impact on practitioners' ability to maintain their traditions - a large household of students or assistants, substantial fees from a relatively small number of clients, and a generally 'cultured' lifestyle. This kind of establishment may have been necessary for a healer to maintain the full range of herbs and more sophisticated treatments. Many British doctors in the late 19th and early 20th centuries wanted to deprive indigenous healers of this kind of status, but the damage was probably done much earlier, in the course of the establishment of British rule.

It is difficult to assess the 'efficacy' of these sources of medical or semi-medical advice. It is relatively easy to argue that high rates of morbidity and mortality, indicated by the data discussed in Chapter 1, mean that indigenous treatments were not very powerful. But it is likely that no medical treatments would have made much difference to mortality rates so closely linked to poverty, famine and environment. On the other hand, it is possible to argue (with Young, 1976) that efficacy should be judged not in terms of any impact on morbidity or mortality, but in social terms - does the ceremony work to reintegrate a society and help it to cope with disaster. Young's position lends itself to a functionalist account, in which (for example) beliefs and practices which reinforce the subordination of women by excluding many of their illnesses from the medical domain, are nonethless judged 'efficacious'. But following this viewpoint, there are few plausible indicators of 'efficacy' defined in this way: two might be the willingness of patients to consult, or of candidates to apply for training as cosmopolitan doctors, since there was no form of compulsion involved. As Chapter 4 demonstrates, there was a steady increase in patients attending Government dispensaries and hospitals, and it seems at least plausible that indigenous

practitioners were not adequately meeting the medical demands of the mass of the population. But this tells us little about why this might be so.

CONCLUSION

British rule had a complex impact on indigenous medicine, and probably had different effects on the different sectors. The elite practitioners probably suffered most through a loss of patronage and the associated status they used to derive from servicing the courts; a decline in their social status may well have affected the more general efficacy of their practice. The impact on the folk sector is more difficult to assess. Most arguments tend to shade into arguments about the impact of British rule more generally, in the absence of specific evidence about any impact on healers. For example, Banerjee (1974), quoted above, depends solely on claims about what commercialisation, polarisation and pauperisation would have done to folk medical practice, without any evidence. We do not know how many folk healers there were before 1800, in which categories, how they earned their living, were recruited, nor how well they lived. We know very little more about their condition in 1947.

In one case, that of **dais**, we know at least that the State attempted to train them and to use them as agents in the delivery of maternity services. As I shall argue in Chapter 4, these schemes all seem to have had a limited impact, perhaps because of the ritual pollution of many of the tasks involved, and because membership of the category 'midwife' was restricted to low caste women, was fleeting and generally unwanted. There is no evidence to suggest that State training either materially improved the quality of maternity care for the mass of the population, nor that these attempts (or other changes under colonial rule) directly undermined or weakened this particular female medical tradition.

CHAPTER 3

PUBLIC SECTOR HEALTH PROVISION UNDER THE BRITISH

> "The peaceful and civilising influence of the work done in the dispensaries and by regimental surgeons on the frontiers of India has been in political importance equivalent to the presence of some thousands of bayonets. .. It is because of such unexpected philanthropy that, as conquerors, we hold a position in the minds of the people which would not otherwise be possible." (General Sir Neville Chamberlain in 1887, cited by Crawford, 1914:134-5)

The provision of 'modern' health services is a cardinal plank of the arguments which focus on the benefits of British rule in India, and some authors have believed these services to be a major explanation of the decline in mortality after 1921. However, this claim has not been based on a detailed examination of what actually was provided, for which groups in the population, at what cost, and with what likely effect. In addition, there has been little discussion of the principles which seem to have underpinned health policy, derived either from statements about its purposes, or from an analysis of patterns of expenditure and provisions.

The chief architects of medical policy under the British were the doctors, all male, of the Indian Medical Service (I.M.S.). This chapter will therefore start with a discussion of the origins of the I.M.S. and how it developed, with particular reference to the social origins of its recruits, their medical training, and the formal organisation of the service. I will then consider the patterns of public health expenditure, especially after 1860, and show how the Provinces and the towns became increasingly important elements in the total. The following chapter will deal with the three main areas of health policy controlled by the I.M.S. and financed by these expenditures: medical and paramedical education; curative medical services (including the attempts to provide separately for women); and preventive medicine, known as sanitary work, with special

reference to plague control.

I shall argue here that there were three main elements in the development of health policy. The first was that of social control, in three senses. Health policy for the masses was used (in Punjab, for example, as quoted above) to forestall and to respond to demands of new subjects for some tangible benefits of British rule. But the I.M.S. was primarily a military service, with the maintenance of the health of the fighting forces a major concern. The I.M.S. also provided services for European civil and military servants to help maintain their morale and their strength in a hostile environment. The second underlying principle was the desire to spread 'enlightenment', or scientific medicine, as a virtue in its own right. The third source of dynamism was 'charity', part of the 'muscular Christianity' of many British officers in India in the 19th century. But these latter pressures were subordinate to the structural imperatives of Imperial rule: the maintenance of order and revenue. Only when this straitjacket was loosened by nationalist politics and more democratic institutions was there a serious effort to expand services. This effort was hamstrung by new imperatives for the protection of capitalism in Britain and in India - the financial controls retained by the Imperial Government and reinforced by the austerity measures by which the British and Imperial Government attempted to cope with the inter-War Depression.

THE INDIAN MEDICAL SERVICE

The I.M.S. dominated the official medical hierarchies and played significant roles in private medical provision as well. Its history falls into three sections. Before 1860, the I.M.S. recruited men with a wide range of medical experience and training, and ad hoc arrangements slowly gave way to a more formal bureaucratic organisation. From 1860 to 1914 the I.M.S. was a structured organisation, drawing recruits from the medical

colleges and schools established as medicine in Britain developed its professional status. After 1914 there was a considerable growth in the subordinate services, while the overall strength of the I.M.S. declined. Recruitment of Europeans also declined, and the I.M.S. 'Indianised' rapidly.

The origins of the I.M.S. were humble in the extreme - in the provision of ship's surgeons by the East India Company on its vessels bound for India. By 1614 the Company had a Surgeon-General (John Woodall, a leading London surgeon) who chose, instructed and equipped men as surgeons for the following 30 years, in spite of frequent complaints that he was corrupt and sent untrained men on the ships (Crawford, 1914, Vol. I:Ch. 3). Men were employed to work on one particular ship for one voyage at a time: at a later date, some of the doctors were asked to remain in India at one of the Company's 'factories' (warehouses) if there was a special request from the merchants (ibid:ch. 6). By the 1670's, surgeons were hired expressly for service in India, and over the following century there was a steady increase in the numbers of medical men employed by the Company to tend to their civil employees. By 1749, it would seem that there were 30 medical men known to the Company in India. It was about this time that the Company began to employ a standing army, and medical officers to accompany the troops into the field.

The growth in the numbers of medical officers led to the establishment of a bureaucratic structure in India to organise their appointments and to create a graded hierarchy of appointments. From this time on, the civil posts, especially those in the three Presidency towns of Bombay, Calcutta and Madras, were reserved for the senior doctors, but all of them were liable to recall to military employment if the need arose (see further below). The Bengal Medical Service, established in 1763, began with 12 full Surgeons and 28 Mates, but by 1783 there were apparently 140 altogether (ibid:ch. 14). The surgeons in Madras numbered 15 in 1767, with 13 Assistants, and by 1784 the

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TABLE 1

SIZE OF THE MEDICAL ESTABLISHMENT FROM TIME TO TIME

Category	Period c.1780	1835	1854	1882	c.1910	1928	1938
I.M.S. military -							
European			608			191	207
Indian			0			205	149
civil -							
European			172			264	196
Indian			0			90	115
Total	216	677	780	684	731	750	667
of which European	216	677	780	645	694	455	403
Indian	0	0	0	39	37	295	264
Subordinate: military -							
Asstt. Surgeons				555	695		381
Sub-Asstt. Surgs.					883		600
:civil -							
Asstt. Surgeons							1159
Sub-Asstt. Surgs.							3126
Total	729	990					5256
TOTAL	1406	1818					5923

Notes: The names of the subordinate categories changed from time to time, starting as assistant surgeons or surgeon's mates, and finishing as sub-assistant surgeons. These figures are not always strictly comparable, sometimes being based on the establishment (i.e. total number who could be employed), and sometimes on those actually in post on a particular date.
Railway doctors, and those employed by local boards, are excluded.
Sources: for 1780 and 1882: Crawford, 1914, Vol I:Ch. XIV; for 1835 and 1850: Report of the Select Committee on Indian Territories, C 533, 1852:408; for 1910 British Medical Journal, 1921:I:115, and Crawford, op.cit.; for 1928, N.A.I. File 52-96/33-H; for 1938, Bradfield, 1939:3-4.

establishment had risen to 30 full Surgeons and 19 Assistants. In Bombay, there were apparently 27 members of the Medical Service in 1779. These relatively small establishments expanded dramatically over the following forty years - partly through local recruitment of Europeans and Eurasians, and partly by recruitment in Britain. By 1823 there were 630 officers holding a 'covenant' (or a commissioned post) in the medical departments of the three Presidencies. The number of medical officers seems to have stayed at about that level until the First World War, though the various sources are not complete nor entirely comparable (see Table 1).

Some idea of the complexity of employment patterns is provided by a survey of staff employed in the Bengal Presidency in 1876. In the seven Provinces of the Presidency (Bengal, North-West Provinces, Punjab, Oudh, Central Provinces, British Burma and Assam) there was a total of 229 medical officers in civil employ (though 12 of these were military doctors holding 'collateral charge' of the civil station where they were posted.) At least 56 of these were not actually covenanted I.M.S. officers, being retired doctors, or temporary or Warrant Officers. These 229 controlled a staff of 245 Assistant Surgeons, and 1131 'Hospital Assistants', who included 92 'native doctors' and 6 called 'passed medical pupils' (Papers, 1881).

The bureaucratic nature of the service was reinforced by a number of changes in the course of the first half of the nineteenth century. The Medical Boards, consisting of the two or three most senior surgeons in each Presidency, controlled appointments, discipline and general policy. They were established between 1785 and 1787, and over the next seventy years, amendments were made in attempts to improve the efficiency of this system and to reduce conflicts between the members.

In spite of formal commitments to make appointments to the Boards on merit, whenever the most senior surgeon was not

appointed, controversy ensued. By the 1820's fixed lengths of tenure were introduced. But Dalhousie, Governor-General from 1848 to 1856, was dissatisfied with the state of the service, and on leaving office he made a number of recommendations which were followed over the next few years. In particular, the Medical Boards, with their unclear precedence and responsibilities, were abolished and replaced with posts of Director-General in each Presidency, assisted by Inspector-Generals.

Until the 1850's, someone employed as a surgeon did not necessarily either have any medical competence or spend most of his time in medical activity. The early reports are clear that claims to competence were not necessarily investigated, and surgeons who had served on several journeys were allowed to continue in employment even if they had originally been hired in dubious circumstances. Since the post was a commissioned one, it depended on nomination by a Director, which was either expensive (the sale of nominations undoubtedly occurred) or dependent on some personal link to a Director, thus limiting recruitment to the relatively well-to-do. Not until 1809 was the purchase of appointments made an offence. The Court of Directors was unwilling to allow local recruitment on more than a temporary basis, because the Directors did not want to lose the rights of nomination, and this created problems in rapidly expanding medical services during local wars. Nevertheless, local appointments were made, including men who had served some kind of apprenticeship in the Company's hospitals in India.

The beginnings of the expansion of the medical services, and the establishment of a clear hierarchy, led also to more formal arrangements for examining the men appointed as surgeons. In London an examining Board for the East India Company was appointed in 1773, and in the 1760's and 1770's the Bengal and Madras Governments resolved that all assistant surgeons should be examined on appointment, though they were unable to reject men duly appointed by the Court in London. The London Corporation of

Surgeons and its successor bodies granted certificates of competence which were a basic qualification for service with the Company from 1745 onwards, but the first clear statement of regulations for admission date from 1822. The first competitive examinations for entry to the I.M.S. were held in 1855, and continued (with a break of five years from 1860 to 1865) until after the First World War.

One attraction of service in India was the income that could be made outside the formal job of surgeon to the Company. The pay of the surgeon was not high, relative to that of the other civil appointments, and the surgeons had to supplement their incomes in other ways if they were to retire handsomely to Britain. This could come through supplementary incomes from work in the Company hospitals (in the 18th century soldiers had to pay for hospital services, and surgeons were paid for each patient they treated, over and above their salary); from private medical practice; or from non-medical activities. Private medical practice included the treatment of 'native gentlemen' or members of the Moghal or other Indian courts, but probably mainly involved the treatment of 'non-official' Europeans and the families of officials.

Non-medical work was potentially very valuable, though also risky if it involved trade and speculation. The range of non-medical work was large. It would seem that surgeons often held other positions (notably that of Post-master) in the early 19th century. Crawford notes several surgeons who made (and sometimes lost) small fortunes in banking, trade or land ownership and management; as late as 1838 a leading surgeon took it for granted that surgeons in civil posts would spend a large part of their time in commercial activities. I.M.S. officers in military posts were barred from commercial speculation in 1824; from 1841 the surgeons in civil posts were also barred, though it would seem that it took at least ten years before the prohibition was enforced (ibid:ch.25).

The I.M.S. was a military organisation: its members had military rank, and could serve as regimental surgeons or in a civilian positions. In the latter part of the nineteenth century, a new recruit to the I.M.S. spent at least the first two years as a subordinate doctor with a regiment or in an army hospital, except in unusual circumstances. The rest of his career would involve moves into and out of military service, depending on choice and the balance of posts available. It was always clear that officers of the I.M.S. were liable to recall from civil duties if the Army required them, but in the relatively quiet circumstances until 1914, this power was rarely used.

The balance between civil duties and military obligations was one which continually taxed the administrative mind, with various schemes for the division of the civil and military services, or the amalgamation of the Army Medical Department (for British troops) and the I.M.S. (for European and 'native' soldiers employed by the Government of India). From the first time that the issue was seriously discussed (in 1766) to the last (in 1935) the considerations remained the same, even though the work required of the two parts of the I.M.S. varied considerably during this period. The primary concern was with the need for European medical officers for service in case of war; the secondary concern was to ensure that recruitment of Europeans to the 'ruling' services - the Indian Civil Service, the police and the Army - was not inhibited by the absence of European medical advice, especially for service wives.

The first of these meant that enough doctors had to be available in India for calling-up at short notice. Even in Britain, with all its doctors of various kinds, there were difficulties in meeting war needs in this way, and in India the authorities were convinced of the need to provide the war reserve by having far more doctors available under their control than was needed for normal military work in peacetime. But the only way to employ such doctors, and to make the service attractive, was to

allow them civil opportunities - trading, etc. in the early period, or work amongst the civil population (official and unofficial) after the middle of the nineteenth century. Before the 1840's and 1850's, civil work was reckoned to be less medical than commercial or administrative, and medical experience was to be found primarily in military work. In the latter part of the century the balance swung the other way, and the civil work included the management of district, police, and jail hospitals, provision of medico-legal services, the organisation of vaccination and other sanitary work - and the superintendence of the local jail (Crawford, 1914 vol I:293-4). And there was an increasing possibility of private medical practice to supplement the various sources of official income. Not surprisingly, most doctors applied for a transfer to civil employment as soon as possible, and looked forward to steady progression through the more distant districts up to the Provincial headquarters, or into the clinical positions in the medical colleges and schools.

How significant was the 'military' nature of the I.M.S.? Nationalist critics of the I.M.S. could point to the fact that the numbers of doctors transferred to civil duties reflected the state of military, and not civil, needs: this became important politically after the First World War, when the balance between European and Indian doctors on each side became a delicate issue. Furthermore, the careers of individual doctors might be seriously upset by military concerns: thus Ronald Ross's researches into the role of mosquitoes in the spread of malaria were interrupted by postings away from his laboratory. But this was a general feature of official employment, not confined to the military, and in looking for limitations to the role and effectiveness of the I.M.S. its character as handmaiden to the Imperial State (as an inducement to recruits to the other services) and the orientation characteristic of 'western' medicine in general at this time are more important than its military origins or hierarchy. In particular, it is probably the case that most members of the I.M.S. did see their careers in terms of their likely access to

lucrative private practice, and providing medical services to the Imperial services as a prime function; it would be surprising if these men took public health or sanitary reform very seriously.

By 1860, then, a Medical Service had been established in India which had most of the characteristics of a formal medical bureaucracy. Appointments were made on merit, and the examinations were open to Indians as well as Europeans - though because they were only held in London access by Indian candidates was restricted and only 55 had entered by 1913. Several of the early Indian recruits resigned after a short career, and some of them felt that they were not welcomed by other members of the I.M.S. or by other officers - a criticism increasingly voiced during the 1920s and 1930s. For the European doctors, at least, promotions were based on seniority, and (as Table 4 below shows) most doctors remained in the service until they retired. Positions were well defined, and were expected to take up most of the time of the employee, whose recompense was largely fixed in the form of a regular salary, though it could still be supplemented by private medical practice, especially in the larger towns. By this time, too, as Chapter 4 demonstrates, the responsibilities of the members of the I.M.S. were much broader than merely the treatment of sick employees of the Crown.

Some idea of the changing nature of the I.M.S. in this period can be seen from the summaries of qualifications and medical schools attended, derived from Crawford's 'Roll of the I.M.S.' (Tables 2 and 3) and information about the heads of the medical services in each Presidency at different periods. In the early years, the men who reached the top (usually with few formal qualifications) often remained for many years, but by the 1860s seniority rules, and promotion to higher positions partly by qualification, meant that senior men occupied the top positions for only a few years before retiring. As the century went on, more 'top' positions were created, as new Provinces were established, Sanitary Commissioner posts added to those of

Inspectors-General of Hospitals, and posts of Professor at the major Medical Colleges were regarded as of equal status. The character of the I.M.S. thus changed quite substantially, and the threatened loss of some of these senior positions under the 1919 Reforms was a major reason for the problems of recruitment of Europeans to the I.M.S. after the First World War (Jeffery, 1979).

The impact of changing patterns of medical education in Britain after about 1820 is fairly clear, though complicated by lack of information on the earlier recruits and by the years used by Crawford for grouping his data. Those recruited after 1800 were most likely to have qualifications from the Royal College of Surgeons in London, usually gained before joining the service but sometimes acquired during leave in England. Edinburgh, and the other Scottish medical faculties and colleges, have always played a substantial part in the training of members of the I.M.S., but their position had declined from one of dominance by the 1860's, with the establishment of the London and Irish medical schools.

This is also reflected in the changing birthplaces of recruits; in the first half of the 19th century, one-third of all recruits were born in Scotland, one-third in England, and nearly 10% in India (with European surnames). In the last half of the century the Irish-born recruits (22%) outnumbered the Scots (18%), the share of the English-born remained about 30%, but 25% of recruits were born in India, including 6% with 'Indian' names (Crawford, 1930:648-9). Other information on the backgrounds of the recruits is very limited, though throughout this period, for those where information is available, roughly one in six were the sons of doctors, one in seven the sons of clergymen, and the rest largely drawn from the military, other professions, business and trade, or from the land (13%)(Crawford, 1914 Vol.2:650-1).

TABLE 2

ANALYSIS OF DEGREES AND DIPLOMAS HELD BY MEMBERS OF THE I.M.S.

Qualification	Year of entry 1764-1800 %	1801-1838 %	1839-1860 %	1865-1896 %	1897-1930 %
London Surgeons	36.6	51.1	63.5	39.3	31.1
London Physicians	0	1.8	11.5	24.1	36.6
London Apothecaries	0	4.2	17.9	15.0	1.5
Edinburgh degree	5.0	16.8	19.2	15.4	17.2
Edinburgh College	1.8	4.4	14.3	31.1	18.0
Other Scottish	4.3	6.9	17.2	16.7	16.2
Indian	0	0	0.6	4.7	7.3
Other	0	1.5	12.9	50.0	44.2
Total (N)	(935)	(1686)	(1119)	(995)	(1049)

Notes: Percentages are of total recruits, but in the early period some have no recorded qualification, and in all periods some had several.
Row 1 includes all qualifications granted by the London Corporation of Surgeons and the Royal College of Surgeons of London and later England;
Row 2 includes all qualifications from the Royal College of Physicians of London;
Row 3 the Licentiate of the Society of Apothecaries of London;
Row 4 the MB and MD qualifications from Edinburgh University;
Row 5 the qualifications granted by the Edinburgh Colleges of Physicians and Surgeons;
Row 6 includes degrees from the other Scottish Universities and qualifications granted by the Glasgow Faculty of Physicians and Surgeons.
There were no recruits between 1860 and 1865.

Source: Crawford, 1930.

TABLE 3

ANALYSIS OF MEDICAL SCHOOLS ATTENDED BY I.M.S. RECRUITS

Medical school	Year of Entry 1764-1800	1801-1838	1839-1860	1865-1896	1897-1930
	%	%	%	%	%
Edinburgh	5.2	16.3	18.3	17.4	17.1
Other Scottish	1.4	4.9	7.0	12.6	11.1
London	0	1.1	13.5	32.8	39.0
Irish	-	0.4	4.0	20.2	15.1
Provincial English	-	-	0.6	4.4	7.1
Indian	-	-	1.3	7.4	17.1
Other	0.1	0.1	2.2	6.0	10.2
TOTAL (N)	(935)	(1686)	(1119)	(995)	(1049)

Source: Crawford, 1930:643-7.

Unfortunately we do not know how far recruits to the I.M.S. differed from those who established themselves in practice, or who joined the growing Poor Law medical service, in Great Britain. It would appear that in the later nineteenth century service in India was preferable to service with the British army, since those qualifying in the common competitive examinations chose the I.M.S. over the Army Medical Department, when they had a choice. This probably reflected the attractions of private practice possibilities in India which would not be available to doctors serving in the British army or navy (ibid., Vol 1:527-9).

TABLE 4

ANALYSIS OF 'FINAL RESULTS'

'Final result'	Year of recruitment 1652-1763 %	1764-1800 %	1801-1838 %	1839-1860 %	1865-1896 %
A. Service ended by death or injury					
Killed in action	3.0	1.0	1.2	2.2	0.4
Suicide or violent death	1.4	2.0	1.1	0.7	2.5
Died while serving	49.8	59.7	51.8	40.2	24.5
Invalided out	0.0	1.7	1.9	0.3	0.7
TOTAL GROUP A	54.2	64.4	56.0	43.4	28.1
B. Resigned or dismissed					
Resigned	12.8	3.7	2.7	4.1	3.3
Dismissed etc.	7.3	6.2	6.2	3.0	0.7
TOTAL GROUP B	20.1	9.9	8.9	7.1	4.0
C. Retired	25.7	25.7	34.7	49.5	67.0
TOTAL KNOWN CASES (N)	(240)	(784)	(1639)	(1108)	(991)
Unknown (N)	(119)	(88)	(7)	(0)	(0)

Source: A reworking of the analysis in Crawford (1930:652-3).

A final indicator of the changes in the I.M.S. around 1860 is in the 'hazards of membership'. For those recruited before 1838, and for whom information is available, more than half had their careers ended by death (usually from disease) or by illness; another 10% or so resigned or were dismissed, and only one-third or less reached normal retiring age still in service. For those recruited in 1839-60 a half retired in the 'normal' way; and two-thirds of those recruited in the thirty years after 1865 reached 55 or 58 and retired (Table 4).

There was a 'decline' of the I.M.S. during the twentieth century, as opportunities in India became less attractive, and employment prospects in Britain improved. In India there was pressure to open the civil posts of the I.M.S. to the 'independent' medical profession - those trained in the Indian medical colleges and schools who had not taken up official employment. Considerable political pressure was applied in London on behalf of Indian doctors to this end in 1907. That year also saw the extension of the involvement of Indians in the management of the Indian Government, with the recruitments to the Imperial councils under the Morley-Minto reforms. Although fierce rear-guard actions were fought in India and in London to reduce the impact of these changes, they created a climate of uncertainty about long term prospects. A third factor affecting medical employment prospects was the establishment under Lloyd George of improved Health Insurance schemes in Britain. The number of British applicants to join the I.M.S. declined very rapidly.

The overall size of the I.M.S. declined after 1919; the number of senior medical positions which it held by right was steadily reduced as a result of the devolution of power to elected Ministries in the Provinces; and the proportion of its recruits who were Indian rose both as a result of policy (a minimum quota for Indian recruits was established in 1919) but also, and more importantly, because of a shortage of European applicants. The main drawback of this situation, as the Indian

Government saw it, was the deleterious effect this might have on European recruitment to the key military and civil services. Lloyd George reflected this view during Parliamentary discussions of the I.M.S. in 1922, and there was considerable evidence that Europeans would be unwilling to serve in small district towns if the only medical advice available for their wives was from an Indian doctor (Jeffery, 1979). The I.M.S. was easily cast as a willing accomplice of the attempts to retain control over medicine in European hands as part of wider Imperial concerns: as an 'Imperial' service, the I.M.S. remained under the control of the Government of India, not the more democratically responsible Provincial Governments. Their consequent unpopularity in Nationalist political circles undoubtedly accounted for the decision in 1947 to abolish it as an independent service, and to give to the local Governments in Independent India full control of their medical civil servants.

The history of the I.M.S., then, can be seen in three stages. In the first, prior to 1860, the service was organised in an ad hoc way, recruiting its members (some with very little medical training) from a range of backgrounds. Its formal organisation was unclear, and the careers of its members were as much non-medical (in trade etc.) as medical. This pattern changes around the middle of the century, as medical training was institutionalised in Great Britain and recruitment depended on recognised medical qualifications. The organisation became highly bureaucratic, and its members increasingly self-confident about their medical abilities and concerned to spread their knowledge and services to the Indian population. This pattern gave way at the beginning of the twentieth century, as the number of Indian recruits began to rise, the service was involved in political disputes, and the power of its members was increasingly threatened by doctors who were outsiders - in private practice and in official employment. In the next sections I will consider in more detail the changing patterns of medical expenditure heavily influenced by the members of the I.M.S.

PATTERNS OF EXPENDITURE

It is difficult to establish a clear picture of health expenditures prior to the 1860's. Indeed, one indicator of the way the Indian government became more fully 'bureaucratic' around this time is its reform of accounting practices in 1867. Before this time, most health expenditures were classified as military - the employment of doctors by the Indian Medical Service and their hospital subordinates, primarily for European and later for 'native' troops. However, some European civilians were allowed access to these services free (members of the senior Services) and others used them on the payment of fees; and increasingly, Indians outside the armed forces were allowed access to medical services of one kind or another, often for overtly political reasons, as the quote at the head of this chapter demonstrates. Nonetheless, even as late as the 1900s, military medical expenditures took nearly 40% of all health expenditures (see Table 5).

Control over these expenditures was increasingly decentralised as the 19th century went on. Until the 1860's the Presidency governments in Calcutta, Bombay and Madras were, with the Government of India, the only significant financial bodies. The Mayo reforms of 1870 established municipalities on a firmer footing, and district and other local boards for rural areas date from the end of the 1880's. These bodies saw health matters as one of their major concerns, and spent much larger proportions of their very small budgets on sewage removal ('conservancy'), water supply, dispensaries and so on, than did the Provincial and Imperial Governments (see Tables 6 & 7).

TABLE 5

CENTRAL AND PROVINCIAL GOVERNMENT HEALTH EXPENDITURES

Category	Decade 1870-9	1880-9	1890-9	1900-9	1910-9	1920-9	1930-9
	Rs millions (Annual averages)						
Civil Medical	} 6.2	7.3	11.6	14.1	23.0	{ 35.1	39.4
Civil Sanitary						17.0	17.6
Military	4.2	5.5	7.1	8.2	6.3	n.a.	n.a.
Total Health	**10.4**	**12.8**	**18.7**	**22.3**	**29.3**	**n.a.**	**n.a.**
Gross Revenue Expenditure	560.0	760.2	938.5	1131.3	1440.8	2175.6	2104.9
(% Health)	(1.8%)	(1.7%)	(2.0%)	(2.0%)	(2.0%)	n.a.	n.a.
(% Civil Health)	(1.1%)	(1.0%)	(1.2%)	(1.2%)	(1.6%)	(2.4%)	(2.7%)

Sources: Statistical Abstract for British India, relevant years.
Military medical expenditures are not separately recorded after 1919.
'Health' includes medical and sanitary expenditures.

TABLE 6

MUNICIPAL HEALTH EXPENDITURES

Category	Decade 1870-9	1880-9	1890-9	1900-9	1910-9	1920-9	1930-9
	Rs Millions (Annual Averages)						
Water supply	1.1	3.5	5.1	5.7	10.4	23.0	17.2
Drainage	0.8	1.4	2.2	4.2	6.3	9.8	8.3
Conservancy	4.5	4.4	7.4	10.9	14.8	25.8	24.7
Hospitals etc }							
Vaccination }	1.7	1.2	2.2	3.3	4.5	8.2	9.5
Sanitary }					1.8*	3.1	3.8
Plague	-	-		1.0	0.7	0.4	0.4
Other	-	-	0.4	1.8	2.7	5.3	3.8
Total	8.1	10.5	17.3	26.9	40.3	75.5	67.7
Grand Total	29.7	38.6	59.2	91.0	165.4	367.7	385.1
% 'Health'	(27.3)	(29.2)	(29.2)	(29.5)	(24.4)	(20.5)	(17.6)

Notes: * 'Sanitary' appears as a separate category from 1915/6 and the figure for the period 1910-9 is an average of five years only. The periods covered in the other cases are financial decades beginning 1st April 1880 etc and ending on 31st March 1890 etc. 'Health' includes medical and sanitary services.
Source: Statistical Abstract for British India, relevant years.

TABLE 7

DISTRICT AND LOCAL BOARDS HEALTH EXPENDITURES

Category	Decade 1890-9	1900-9	1910-9	1920-9	1930-9
	Rs. Millions (annual averages)				
Sanitation, Hospitals etc	2.8	4.3	6.7	15.8	20.6
Total	29.0	42.9	73.4	134.6	161.4
(% 'Health')	(9.3)	(10.0)	(9.1)	(11.7)	(12.8)

Source: Statistical Abstract for British India, relevant years.
Note: 'Health' includes medical and sanitary services.

It would be misleading to see these institutions of local government as particularly democratic; civil servants often constituted a sizeable proportion of the membership of the councils, and they nominated a number of the other members. The process of democratising these institutions followed policies at provincial and national levels - the reforms of 1907 (Morley-Minto), 1919 (Montagu-Chelmsford) and 1935. These changes were accompanied by steady increases in the number of provincial units - from the original three Presidencies to over a dozen substantial units by the 1930's. Only after the turn of the century did nationalist politicians bring municipal politics into prominence in the larger cities, and for most regions it was the 1919 reforms which were crucial in widening the area of participation. But even in the 1930s, the chief medical advisers to all these levels of Government were most likely to be members of the I.M.S. - the District Medical Officers or Civil Surgeons for the District or Local Boards, and for most municipalities, and administrative medical officers for the Provinces.

TABLE 8

PER CAPITA CIVIL HEALTH EXPENDITURES, CURRENT AND 1870s PRICES

Category	Decade 1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930-39
	Rupees (Annual averages, per capita)						
Central/ Provincial	0.03	0.04	0.05	0.06	0.10	0.22	0.21
Municipality	0.04	0.05	0.08	0.12	0.18	0.32	0.25
Local Board	0.00	0.00	0.01	0.02	0.03	0.06	0.08
Total (Current prices)	**0.07**	**0.09**	**0.14**	**0.20**	**0.31**	**0.60**	**0.54**
Price index	100	87	116	129	201	271	160
Total (1870s prices)	**0.07**	**0.10**	**0.12**	**0.15**	**0.15**	**0.22**	**0.34**

Sources: Tables 5-7 as above; population figures for British India derived from Davis (1951), taking the average of adjacent census years; price index from the wholseale prices index in Reddy (1972:172-3), with the 1948-9 base translated into a decadal average based on 1871-2 to 1879-80 as 100.

Tables 5, 6 and 7 suggest that civil health expenditures prior to 1919 increased steadily in money terms, but remained a fairly constant share of the revenue expenditures of the different levels of government. After 1919 Central, Provincial and Local or District Boards health expenditures rose substantially in money terms, and more rapidly than the growth of other revenue expenditures. In the municipalities, the growth in health expenditure was slower than that of total expenditures. Taking all the levels of Government together, it would seem that health expenditures as a proportion of public expenditure rose from about 4.2% in the 1910s to 5.5% in the 1930s.

Table 8 attempts to summarise these changes, taking account of changes in prices and the growth of population. There are problems with some of these calculations: there may be some double-counting (Provincial Governments subsidised local government institutions, but this probably came from a separate budget head); the price index used may not reflect changes in the costs of items in the medical budget; and the population deflator used is that of the total population, when for some purposes (e.g. for Municipalities) the population covered by that form of institution might be more meaningful.

One additional factor complicating an assessment of changing priorities is that the 1920's and 1930's were a period of world recession. The dominant economic philosophy demanded that budgets be balanced, and this placed the most severe restrictions on any expansion of expenditures and also led to a decline in prices. It is thus difficult to assess the extent to which democratic participation changed expenditure priorities towards health matters, since price changes may exaggerate the impact. But the changes seem large enough to suggest that they reflect real increases, so that 'real' per capita expenditure rose about 50% between the 1910s and the 1920s, and by the same amount again by the 1930s.

It seems most likely that the new form of Government introduced by the 1919 Government of India Act had a major effect on the size of public expenditure and its distribution. Under this Act (and over the objections of the medical civil servants) large areas of health policy were made the responsibility of the Provincial Governments, and transferred to the control of elected Ministers. The British Government argued that something had to be transferred to the Ministers, and there was little chance that ministerial control of public health could threaten Imperial interests. The political disputes generated by this decision were focussed on the attempts by the I.M.S., the B.M.A. and the G.M.C. to stop **Ayurvedic** and **Unani** medicine getting any official support (see Chapter 2 above) and to establish an Indian Medical Council to ensure a continuing powerful role for the Imperial Government (Jeffery, 1979). However, it is also probable that these reforms had some financial impact, increasing public sector health expenditures, in money, real and proportionate terms.

CONCLUSION

In this chapter I have argued that the I.M.S., as a fully bureaucratic institution, was clearly established by the 1860s and dominated medical policy-making without any challenge until the First World War. After the 1919 Reforms, and with a much enlarged Indian membership, the collective character of the I.M.S. changed, but it retained most of its influence. Major constraints on the way it was organised were its roles as a military reserve and as part of the welfare services provided for European civil servants and military officers - and these were its main bargaining counter. Take away the lucrative civil medical positions, and recruitment from Britain would wither away; take away British doctors from India and the Indian Civil Service, the Indian Army and the Indian Police would complain; and these were the backbone of Imperial rule. The orientation of the I.M.S. reflected these priorities: there was little interest in expanding medical services for the mass of the civilian population, and public health measures ('sanitary work') played no part in career advancement for ambitious doctors. But this does not mean that these were the only concerns affecting medical policy. Chapter 4 looks more closely at the implications of I.M.S. domination in the three main areas of medical policy - medical education, sanitary policy and the provision of medical services.

CHAPTER 4

MEDICAL EDUCATION, PUBLIC HEALTH AND MEDICAL SERVICES UNDER THE BRITISH

> "The munificence of this Government charity [dispensaries], conferring such tangible and widespread advantages, will doubtless be appreciated by our new subjects."(General Report on the Administration of the Punjab Territories for 1851-2 and 1852-3, 200)

The three legs of medical policy in India under the British were education, public health and medical services. By 1860 the general outlines of provisions in each sector were established in a formal bureaucratic pattern, which was to last for 60 or more years and retains significance today; but after 1920, changes in each sector made the greatest impact on post-Independence provision. I shall deal with the three sectors in turn, first with medical education, which provided the personnel for public health and medical services.

MEDICAL EDUCATION

In this section I shall deal only with the education of doctors. It is much more difficult to provide any kind of picture of the development of training for other kinds of medical staff. It is clear from the early reports that classes were not only held for several grades of doctors but also for compounders (pharmacists), sanitary inspectors (from the end of the 19th century in Madras, later elsewhere) and for indigenous midwives, or **dais** (see further below). Nurses, of various kinds, and later, Health Visitors, were also trained: these categories will be discussed in more detail in Chapter 9. Information on these courses in the British period, the numbers attending, and the destination of the students, is scarce, and reflects the strength of the assumption that medical education was the most significant, at a time when few doctors were assisted by more than one or two trained staff. Despite the risk of reinforcing

this 'doctor-dominant' view of health care, therefore, I have little choice but to focus on the doctors.

The pattern of medical education in India under the British reflects quite clearly the periodisation mentioned earlier. Change in this pattern responded not only to changes in Britain (in the organisation of medical knowledge, the social interests of different groups in Imperial government etc.) but also to wider political changes in India (the growth of Indian participation in government, and the rising involvement of Indians in higher education, in particular). Prior to 1860, medical education in India, as in Britain, differed little from apprenticeship systems, outside one or two centres where a scientisation of medicine had been undertaken. Between 1860 and 1914 medical education was 'controlled' - the student body was drawn from restricted social origins, and the I.M.S. had virtually unchallenged sway over the terms of the education it provided. In this period Indian medical schools and colleges were probably not too different from those of Europe: the timelag between the education of the I.M.S. man and the education he passed on to his Indian students was probably of little significance. By the 1920's medical education in India was caught between conflicting pressures - of nationalism on the one hand and the demands of a swiftly-changing, increasingly scientised European medicine on the other. This was the period when student numbers expanded dramatically, and control over the kind of education offered became a significant political issue (Jeffery 1979). Key decisions were taken in this period, with considerable influence on post-Independence decision-making. The two main examples are the decision to phase out the training of a subordinate level of doctor, and to exclude 'indigenous' medicine from the medical education of cosmopolitan doctors, and I will discuss the circumstances of those decisions at the end of this section.

In what follows, I will distinguish between medical <u>colleges</u>

and medical schools, although this distinction really only applies clearly after about 1860, when the Indian universities were established. At that time, recruitment to the medical establishment was regularised, giving formal qualifications a central place, so that the distinctions between grades were more marked. Thus my usage will follow that of the latter part of the nineteenth century and afterwards. 'College' will refer to institutions preparing students for the university qualifications which qualified for entry to the I.M.S. or (after 1892) to the Colonial List of the General Medical Council in London. College graduates thus had rights to practice in the U.K. and to register for the examinations held by the British Royal Colleges. 'School' refers to institutions providing only shorter courses, aimed more closely at employment prospects in the subordinate medical services. At some periods, some medical colleges and schools shared premises, and the 'college' staff may have been involved in teaching the junior classes. By the 1930s, those with college degrees were called 'graduates' and the holders of school qualifications were called 'licentiates', and this is current usage. However, this is confusing for the period before 1914, when the most common University medical degree was the Licentiate in Medicine and Surgery (L.M.S.), so I will not use these terms.

Through their support of the Sanskrit college, founded in Banaras in 1788, and the Madrasa in Calcutta, founded at the beginning of the 19th century, the British in India supported some classes in the indigenous systems if medicine, though without any practical training (Hartog, 1931). But the Portugese in Goa were probably the first to have taught medicine and surgery of the 'Western' kind in a systematic way in India (Jaggi, 1972:24-6). They established a three year course in 1801, and extended it to four years in 1821. Until 1812, the only form of medical education in British India was the training by surgeons of assistants on an apprenticeship basis. Some of these were later recruited to the subordinate (uncovenanted) medical service (Crawford, 1914 Vol.2:103-5). In 1812 these schemes were

extended and formalised, by attaching European and Eurasian boys to the Calcutta Presidency General Hospital, a garrison hospital and the General Dispensary, for training as compounders and dressers (ibid:106-8). Similar arrangements dating from the same time were made in Madras. Both arrangements were designed explicitly with the aim of providing recruits to serve in paramedical positions for the Company's Army, both 'native' and European.

In 1822 medical education in Calcutta was raised in status and changed in quality by the establishment of a Native Medical Institution (N.M.I.). There was some general expansion of educational provisions by the Company at this time. The members of the Court of Directors in London seem to have had no great enthusiasm for the N.M.I., expressing hostility to the extra cost of paying for a Supervisor, and comparing the new arrangements unfavourably with the system still in operation in Madras, where the Company merely 'permitted' an apprenticeship system (Asiatic Journal, 1826). The number of students at the N.M.I. was originally limited to 20, but this limit was raised to 50 in 1826; they received a stipend during training; they were taught in Urdu or Sanskrit, and European texts were translated into these languages and also used at the Sanskrit College and the Madrasa (Jaggi, 1972:28-9). Only one European doctor worked at the Institution, assisted by a Bengali pandit and other assistants, and dissection - the touchstone of 'modern' medical education at the time - was carried out not on human but on animal bodies.

The N.M.I. was one of the educational institutions caught up by Bentinck's reforming zeal, when, as Governor-General, he was responsible for introducting 'utilitarian' principles into aspects of Company rule (Stokes 1959). He established a committee which argued that the N.M.I. was not properly organised, because students were not admitted at a single standard, the tuition, period of training and examination were inadequate, and the

practical anatomy was non-existent. A dispute between the 'Orientalists' and the 'Anglicists' on the committee was resolved in favour of those who insisted that English be the medium of instruction in future, and that only 'European' science be taught. The N.M.I. and the medical classes at the Madrasa and Sanskrit College were abolished at the end of January 1835, being replaced with a Calcutta Medical College. Here the new orientation was made clear: the course would cover "the principles and practice of the medical science in strict accordance with the mode adopted in Europe" (Crawford 1914 Vol. 2:436). However, it did not mean the end of medical education in local languages: vernacular medical education (without instruction in indigenous theories of medicine) restarted in 1839, with teaching in Urdu and later in Bengali. Education on similar principles was introduced in Madras in 1835 and in Bombay in 1845, including vernacular classes for the training of compounders and 'native doctors', or subordinate medical staff (ibid:446-50).

The process of removing the training of the inferior grades from the medical college was slow. The Calcutta Medical College transferred the Urdu classes to Agra and to Lahore in the 1850's, and the Bengali classes to Sealdah in 1873. Madras Medical College removed the vernacular classes three times, for short periods after 1857 and 1882, and finally in 1903. Bombay transferred its vernacular classes in 1878-81, to Poona, Ahmedabad and Hyderabad (Sind). The colleges used these transfers to gain respectability in the eyes of the British medical authorities: Calcutta Medical College had already been reorganised in 1845 to meet the requirements of the London authorities, and Madras courses were recognised by the Royal College of Surgeons from 1856 (Crawford 1914 Vol. 2:Ch. 43). With the establishment of Universities the raising of status went one step further - Calcutta, Madras and Bombay Universities, founded in 1857, made the medical colleges their medical faculties. In 1892 the Indian universities giving medical qualifications

(including Punjab after 1882) all received recognition from the General Medical Council in London. The G.M.C. did not insist on inspecting the medical colleges but were apparently persuaded that there was little difference between the Indian and British standards at this time. In order to maintain comparability with British medical education, the Indian colleges periodically raised their entrance requirements. When this happened, recruitment to the medical schools was increased, and by the end of the 19th century there were several medical 'colleges' in Calcutta, usually homeopathic in orientation, who also began to expand with those excluded from the official colleges.

University status did not make an immediate difference to the organisation and nature of the medical colleges. To begin with, the numbers taking the university qualifications was small: only 99 passed the final L.M.S. examination at Calcutta in the ten years from 1857-67, and two passed the B.M. degree examination in the same period (Reports, 1870:58). In Bombay two or three students passed the final L.M. examinations each year in the mid-1860's, while only two candidates received Madras University medical qualifications between 1857 and 1868 (ibid:61; 100). In addition, considerable tensions remained between the military medical authorities (who controlled the appointments to the senior medical college and medical school posts) and the educational authorities. For example, the Education Department in Bombay complained in the 1860s about the poor state of the Grant Medical College because the senior appointments were made to suit the requirements of the medical administration, not the scientific criterion of ability - and the medical storeskeeper declined to give lectures in Materia Medica, so there were none! (ibid:394).

TABLE 1

STUDENTS REGISTERED AS ATTENDING MEDICAL COLLEGES, SELECTED YEARS

University	1866/7	1876/7	1886/7	1896/7	1906/7	1916/7	1926/7	1936/7
Calcutta	139	176	172	468	425	1100	1616	1470
Bombay	18	286	276	279	679	703	618	1244
Madras	8	143	138	82	195	207	586	1016
Punjab	-	47	68	238	243	232	488	545
Allahabad	-	-	-	-	-	137	254	504
Delhi	-	-	-	-	-	30	67	138
Patna	-	-	-	-	-	-	154	266
TOTAL	155	652	654	1067	1542	2511	3783	5183
of which:								
European/Eurasian			26%	9%	10%	4%	2%	3%
Native Christian			10%	6%	8%	6%	6%	6%
Muslim			2%	6%	4%	7%	12%	11%
Hindu - Brahman	}	43%	72%	23%	25%	}	75%	72%
Non-Brahman	}			37%	50%	}		
Parsi			17%	6%	16%	6%	2%	2%
Other			2%	-	1%	3%	3%	6%
Final university qualifications:								
Candidates	30			154	404	512	1525	1549
Passed	22			76	168	329	558	566

Notes: 'Students' excludes those attending other classes attached to the medical college. Final university examinations were predominantly for the L.M., or L.M.S., until 1914, when most students took the M.B.B.S. examinations (Bachelor of Medicine, Bachelor of Surgery).
Sources: Quinquennial Reviews of Education, relevant years; Reports, 1870; Moral and Material Progress, 1876-7.
In 1876/7 and 1886/7 Madras figures may include some school pupils.

TABLE 2

PUPILS AT MEDICAL SCHOOLS, SELECTED YEARS

Province	1866-67	1876-77	1886-87	1896-97	1906-07	1916-17	1926-27	1936-37
Bengal	278	862	793	1482	1845	1119	2282	2409
Bombay	?	?	123	203	307	512	441	850
Madras	113	?	204	423	318	600	881	920
U.P.	-	76	125	253	314	679	351	420
Punjab	-	84	143	333	394	513	772	1324
Assam	-	-	-	-	*	178		
Bihar	-	*	*	*	*	257	387	212
Orissa	-	*	*	*	*	*	**	150
Central P.	-	?	-	-	-	55	247	266
Sind		-	@	@	@	@	@	147
Other	-	-	-	-	-	-	296	301
TOTAL (British India)		1022	1388	2694	3178	3983	5637	6999
Princely States:								
Hyderabad					65			
Central India				?				
Final examinations:								
Candidates				690		1693		3547
Passed				549		898		1961

Sources: Quinquennial Reviews of Education, relevant years, except for 1866/67 figures, from Reports, 1870; and 1876/77 figures, from Statistical Abstract 1878.

Notes: These figures sometimes include pupils registered in courses at private aided and unaided institutions, in some years including homoeopathic, **Ayurvedic** and **Unani** schools. Burma is excluded throughout.

* - totals included in Bengal.

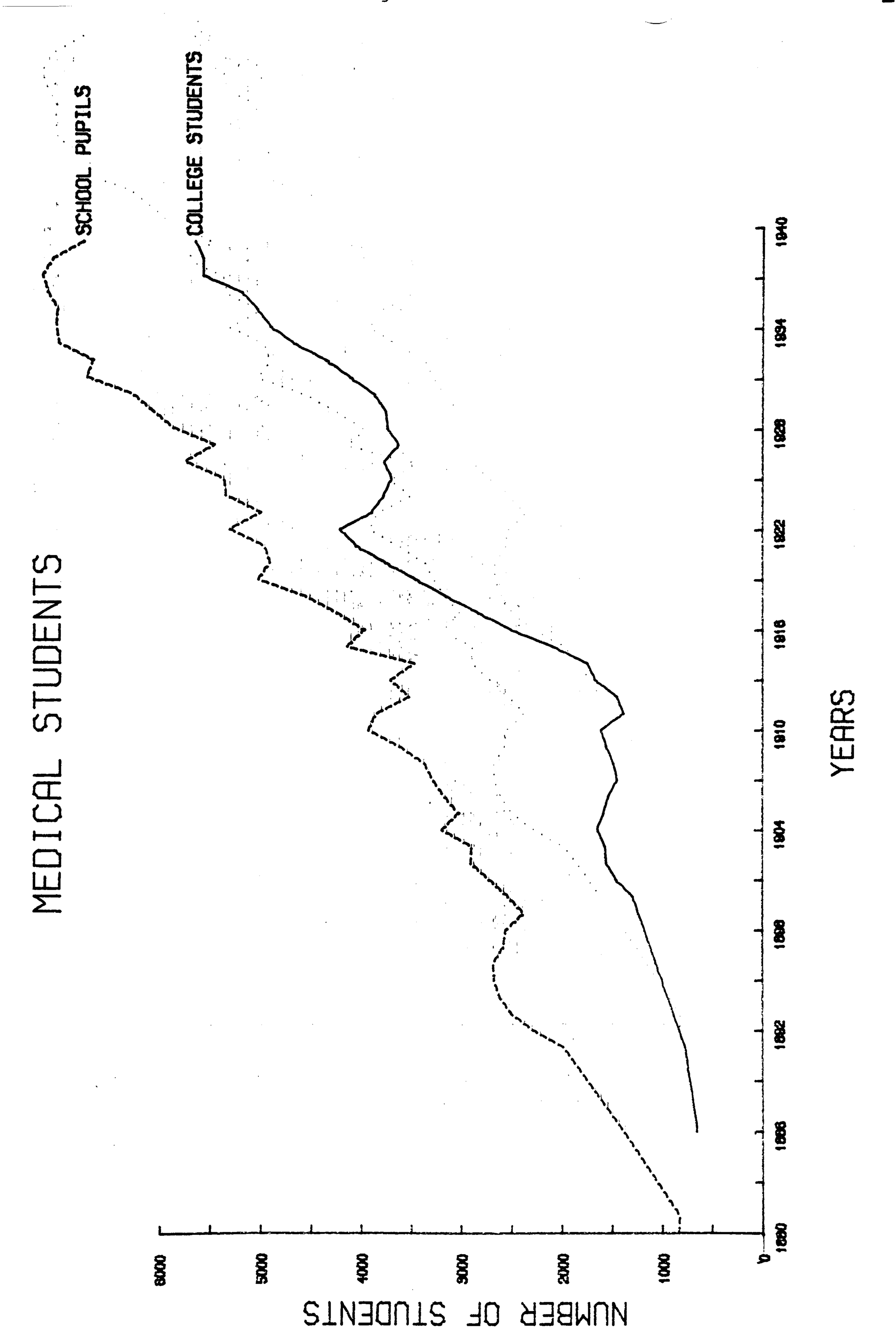
** - total included in Bihar.

@ - total included in Bombay.

During the nineteenth century the numbers of medical colleges and schools and their pupils grew, but not steadily. Tables 1 and 2 show the figures for the most accessible years (those of the Quinquennial Reviews of Education) but they do not show the extent of fluctuations in numbers. Schools were opened in Agra (1853), Lahore (1860), Nagpur (1867, closed about 1883), Sealdah (Campbell, 1873), Patna (1874), Dindigul (1874, transferred to Madura 1885, amalgamated with Tanjore 1887) Dacca (1875), Cuttack (1876), Nellore (1876, closed 1897) Indore (1878), Poona (1878), Ahmedabad (1879), Hyderabad (Sind) 1881, Tanjore (1883), Ludhiana (Mission, for women, 1894), and Dibrugarh (1900). Of these, Lahore became a medical college with the founding of the Punjab University in 1882, and the inferior teaching was transferred to Amritsar in 1920. King George's Medical College, Lucknow, opened in 1912, was the other addition to the ranks of the full-fledged medical colleges before the First World War. A period of rapid growth during the First World War was followed by decline in the 1920's, partly in response to the pressures exerted by the General Medical Council in London (Jeffery, 1979). Figure A shows the trends in total students graphically.

However, the figures of those passing the final examinations seriously underestimate the impact of medical education. The heads of the medical schools and colleges addressed this as an issue of the 'quality' of their students: in Madras in 1867, for example, while 32 passed out from the 'inferior' departments, 16 were 'dismissed for incompetence' (which suggests the military character of the institution); and in Calcutta, 124 passed the Ist L.M.S. examination between 1860 and 1868, out of 317 candidates (ibid:55, 444, 417). Inspection of the number of candidates from year to year suggests that many of those who failed at one attempt did not succeed at later attempts. But it is clear that these 'failures' are only part of the story. Many students attended for a few sessions but did not complete the course. Some of these were removed for non-payment of fees, but

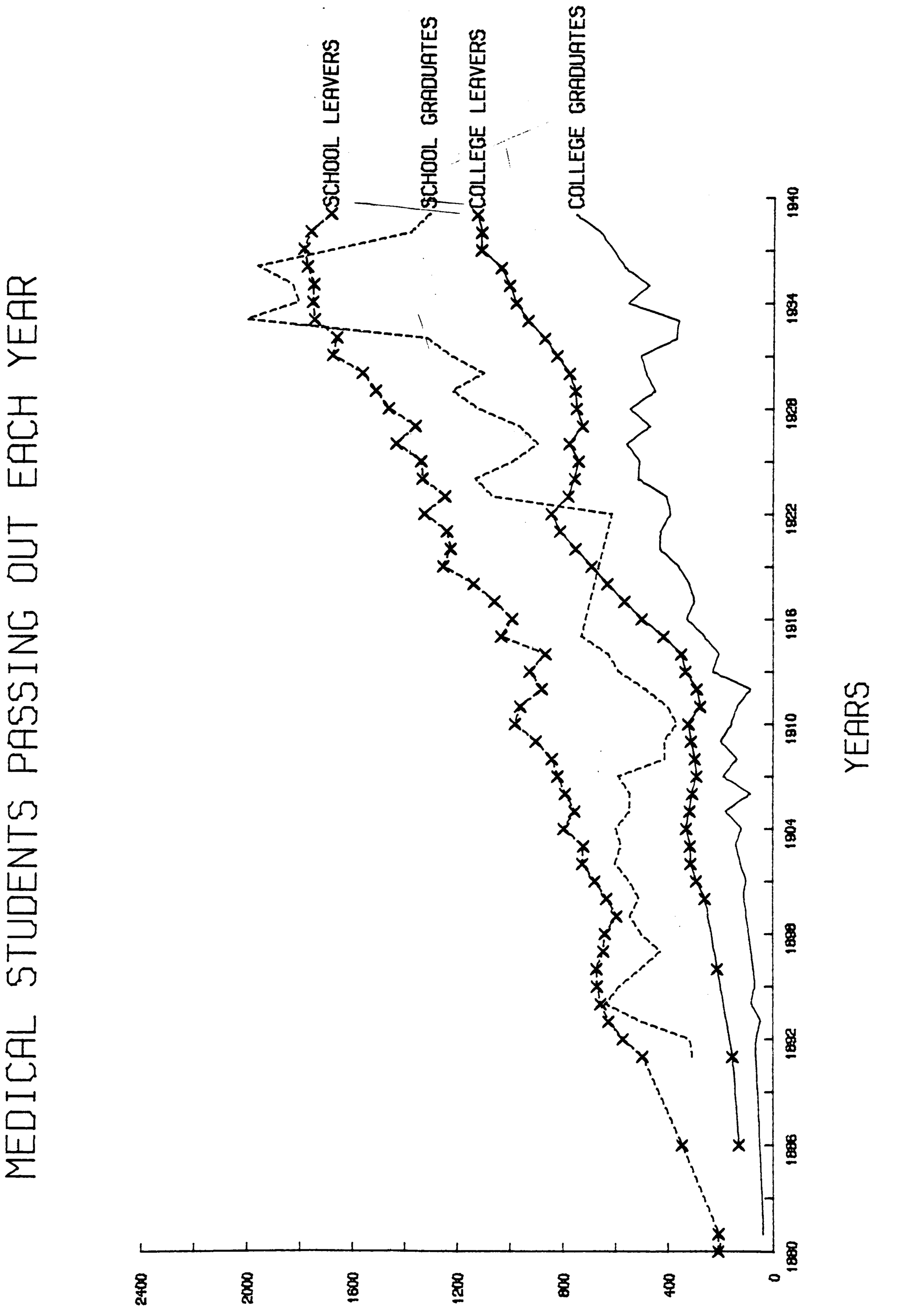
Figure A


SCHOOL PUPILS
COLLEGE STUDENTS
MEDICAL STUDENTS
1940
1934
1928
1922
1916
1910
1904
1898
1892
1886
1880
YEARS
8000
5000
4000
3000
2000
1000
0
NUMBER OF STUDENTS

others left for other reasons. For example, during the 1870s the Principal of the Madras Medical College complained that of the small number of students studying for the L.M.S. or M.B.B.S., several left without attempting to complete the course, some to go to England to complete their studies (Sanitary Commissioner's Report, 1876). Similarly, in Calcutta in 1872 it was estimated that only 8% passed the examinations, the remainder leaving to practise without any formal qualification (Indian Medical Gazette, 1872). In other words, the numbers of successful graduates is probably the lower limit of an estimate of those who gained enough medical education to establish a medical practice, either directly or after more training elsewhere. An upper limit of this can be provided by dividing the number of college students registered in each year by five; and of school students by four. The two limits are indicated graphically in Figure B. Those who left without passing the final examinations had a variety of career options, since at this time there was no bar on their taking up appointments in Princely States, or setting up in private practice, and no constraints on what they might prescribe nor on what operations they might carry out. Unfortunately, we know nothing about the careers of these 'M.B. B.S. failed'.

Thus, despite the main expressed intention behind the establishment of medical education (to supply subordinate medical staff for Government service), the impact of the training was much broader. This was true for both the colleges and the schools. The medical colleges had, almost from the start, interpreted their role much more widely than just 'providing subordinate medical staff'. There were two main reasons for this. To begin with, from the beginning, medical colleges had accepted substantial numbers of privately-funded students in addition to those on stipends and bound to serve in the subordinate medical services if requested. As early as the 1880s, they established practices in the major towns and began to compete with European doctors for the private market. Thus, of 142 graduates of the Grant Medical College, Bombay, between 1870 and 1881, over half

Figure B


MEDICAL STUDENTS PASSING OUT EACH YEAR
NUMBER OF STUDENTS
2400
2000
1600
1200
800
400
0
YEARS
1880
1886
1892
1898
1904
1910
1916
1922
1928
1934
1940
SCHOOL LEAVERS
SCHOOL GRADUATES
COLLEGE LEAVERS
COLLEGE GRADUATES

were in private practice in 1882 (Gumperz, 1965:234).

Secondly, the medical college Professors encouraged their better students to gain British qualifications or to compete for entry to the I.M.S. In 1845 one of the Professors at Calcutta Medical College took four students to England to complete their medical training, and one of them joined the I.M.S. at the first competitive examination in 1855. Graduates from the medical colleges were likely to go to Britain for higher qualifications, if they wanted to make a mark in their careers, and the medical colleges seemed to be proud of such achievements, however unpopular the Indian member of the I.M.S. might be with European civil servants or, (especially just before the First World War) with the British Medical Association.

The medical schools also saw the training of private practitioners as part of their role. More of their students, of course, were on stipends and were bound to work in Government service (military or civil) for a period after completing their course. In some periods the expectation that school graduates were destined for public employment did affect policy. Entry was cut back when a 'surplus' appeared likely, as in Punjab in 1871 (Kerr, 1979:296). But even so, private students were common, especially in Calcutta. The Bengali department of the Calcutta Medical College was regarded as a source of 'independent medical practitioners' from about 1865, which may explain why the share of 'fees' in its financing was much greater than that of the English or Hindustani departments - and why less was spent on the Bengali classes than on the other two, in spite of the fact that the Bengali department was the largest (Reports, 1870:65,452)

By the end of the nineteenth century, if not before, the spread of employment of those leaving medical schools was as wide as of the college graduates (Quinquennial Review, 1908:160). Substantial numbers of Indian graduates had established themselves in private practice in the main Indian towns, and were

regarded as posing a real threat to the **hakims** and **vaids** and also taking patients from the Government hospitals and dispensaries. This latter was undoubtedly unintended, but at least some senior members of the I.M.S. accepted it as an inevitable (and desirable) result of their policy of medical education:

> "The object (of medical education) was not merely to secure a constant supply of subordinate medical officers for the Government service but also to raise the standard of medical knowledge and encourage the practice of medicine and surgery on established scientific principles. That private practitioners, possessing the necessary qualifications, should be able to compete successfully with public medical charities, is a satisfactory result." (Bengal Administration Report, 1885:306-7)

When these same men began to take clients from the private practice of I.M.S. members as well, the objections were more substantial, and the I.M.S. jealously guarded its control over the major hospitals, in order to prevent Indian doctors from claiming the prestige associated with being attending doctors there. Until the early twentieth century, of course, the I.M.S. had admitted very few Indians into full membership, but during the First World War considerable numbers were inducted on temporary commissions and stayed on afterwards. Whereas in 1913 only 5% of the service was Indian, by 1938 their share had risen to 37% of the civil posts. Thus the Nationalist claim (expressed in the 1930s) that the I.M.S. was unwilling to train Indians to its own standard seems overstretched. It seems more likely that teachers would prefer to encourage their students, for the intrinsic rewards that this would bring them, but also because of the social composition of the college students. As Table 1 shows, the student body before 1914 was heavily weighted towards those social groups seen as closest, in 'ethnic' terms, to the British.

The 'race and creed' data show that medical college students were recruited from a relatively narrow social background, with Christians (often European, and later, Anglo-Indian) and (in

Bombay) Parsi students providing a large proportion of the student body. Prior to the 1880s only sporadic evidence is available about the ethnic origin of medical students. In the 1840's roughly one in three or one in four of the Calcutta Medical College students were Christian (Commercial Tarriffs 360-4; Returns, 1852). In the 1860's one in four of the Calcutta students were Christian, and a proportion of these were either European or 'Eurasian'. As Table 1 shows, these groups were still substantial as late as 1916/17, with a peak around 1911/12 when they amounted to 15% of the student body, with 'Native Christians' accounting for only 3% and Europeans or Eurasians making up 12%. Parsis were heavily over-represented (in terms of their share in the general population), with one in six students in the 1880s and again in the early years of the twentieth century. The dominance of these groups in the medical schools was never so marked. In the colleges and the schools, while Hindus were the largest group, but those classified as 'Brahman' were much fewer than the rest, unlike the situation in the other sectors of higher education in this period. The share of Muslims only began to approach a due proportionate level in the 1920's and 1930's, when the reservation of places for Muslims began to have some impact. It would seem that the over-representation of Indian Christians and of Parsees was stable until the First World War, and more marked than for other forms of higher education. This suggests 'both the strong symbolic value of the degree as an index of Westernization and the strong identification of these groups with Westernization in this particular form' (Gumperz, 1965:228).

As medical education expanded rapidly, during and after the First World War, so the proportion of the 'ethnically similar' groups dropped dramatically, and this may have been one of the reasons behind the changing attitudes of British medical authorities to the issue of 'Indian medical standards' in the 1920's and 1930's. The G.M.C. in London began to take more interest in the quality of the qualifications it registered after

1907, when it warned of a need to improve midwifery training. In 1920 the Indian universities were asked for more details of their own arrangements, and the unsatisfactory nature of the replies was used in 1921 as grounds for a threat to remove recognition. This threat was used by the I.M.S. to maintain their control over the medical colleges, to reduce the number of students admitted, and to toughen up the conditions for passing the examinations. The Montague-Chelmsford reforms of 1919 had given the area of medical education to the Provincial Governments, for elected Ministers, though retaining control of 'medical standards' for the Central Government. The assistance of the G.M.C. enabled members of the I.M.S. to retain more of the lucrative medical college jobs than they might otherwise have done, and to control Ministers who wanted to change the pattern of medical education in their Provinces. The number of medical undergraduates, which had nearly trebled between 1908 and 1922, dropped steadily until 1927, only rising above the 1922 level in 1934. The pass rate in the M.B.B.S. examinations dropped from over 50% in the period 1915-1921 to under 40% from 1925 up to the War.

In spite of the fact that midwifery training remained inadequate (the basic problem was a shortage of midwifery cases in the medical college hospitals) the G.M.C. continued to recognise the Indian colleges (with the exception of Calcutta for a few years after 1924) until 1930. It then refused recognition until an Indian Medical Council was established (in 1933) and was able to negotiate retrospective recognition (in 1936) for most graduates in the intervening period. While the rhetoric of the dispute was cast in terms of the acceptability (or otherwise) of Indian graduates who wished to practice in Britain, the implications were to affect the whole pattern of medical education in and for India. The medical schools were excluded from the terms of the Indian Medical Council, and this recognition of their second-rate status fuelled campaigns for them to be abolished or for them to be up-graded into colleges. It was decided to do this in 1939, and this decision was

reasserted after Independence and implemented in the 1950's.

There were other factors affecting the nature of medical education after 1919. The effect of the world recessions immediately after the War, and again after 1929, had severe impacts on Government expenditure as the Government of India attempted to balance its budget, and called in notable businessmen (in this case, Lord Inchcape) to advise how this might be achieved. This affected not only employment opportunities in the public sector but also increased competition in the private sector: reports on unemployment in Punjab and in U.P. in the 1920's and 1930's claimed that only 15-20% of doctors in private practice were making a decent living. Graduates began to take jobs for which only a licentiate qualification was required, and the clinching example came in 1938 when 995 licentiates and 428 graduates applied for two poorly paid posts in Aden.

As a result of these trends, the 1930s saw a major attempt to dismantle the 'two-tier' system of medical education in India by phasing out the medical schools. Where possible, it was proposed that facilities should be upgraded, courses lengthened, and schools turned into colleges; elsewhere, schools might be closed. This policy was supported by the representatives of the school-educated doctors, who hoped thereby to be able to gain the benefits enjoyed by the college graduates; by British members of the I.M.S., who saw this as a means of blunting criticism from London of the ambiguous position of Indian medical education; and by nationalists who felt that the second tier implied that those receiving their care were second-class citizens. It was opposed by those who felt that the school-educated doctors were more suitable for a poor country, being cheaper to train and more willing (because of their lower social origins) to work in rural areas or in unpopular specialities such as public health (Jeffery, 1979). As I shall show in Chapter 9, these debates have recurred in the post-War period as well. By 1938, the decision to

destroy the medical schools had been taken in principle; the intervention of the War prevented its full implementation for another 15 years.

The doctors trained in these medical colleges and schools were the backbone of the Government medical services, and, by 1900, they also provided a substantial number of private medical practitioners. We know very little about the nature of the services they offered. It is too simplistic too assume that they practised what they were taught, or what their orders dictated. Some of them collaborated actively with indigenous practitioners, until the 'ethical codes' of the Registration Acts made that a dangerous activity (Steinthal, 1984). Others were accused of ceasing to practise Western medicine, under the stress of making a living. However, those in Government service were part of a structure which, nominally at least, was to provide curative services and (after 1865) preventive ones. I shall now turn to consider the nature of these provisions.

SANITARY POLICY

Prior to the 1860s there was little dicussion of sanitary matters except in a sporadic way. Thus in 1810, when a group of Dacca citizens proposed local improvements (such as the removal of filth, or the repair of wells and drains) the Governor-General rejected the proposal out of hand (Ahmed, 1980:134-5). The Magistrate was supposed to carry out improvements, but in fact spent most of his time on judicial and police work. By 1823 the Governor-General was prepared to permit the surplus from town taxes to be spent on urban improvements, but in Dacca at least, most effort went into road-widening, the draining of marshes, and into the clearance of land for (amongst other things) a race-course (ibid:147-8). Efforts depended on the energy of individual officials appointed to the improvements committees: but they were all abolished in 1829 as a measure of economy (ibid:159). However, one measure of preventive medicine was already commonplace: vaccination against smallpox, with over one million vaccinations a year being carried out by the 1860s.

The beginnings of preventive health measures in India are usually dated from the Royal Commission appointed to enquire into the sanitary state of the Army in India, which reported in 1863. This Royal Commission was established, in part at least, because the deaths of British soldiers during the Mutiny from disease greatly exceeded those from injuries received in fighting. It reported that it was impossible to separate the health of the army from 'the sanitary condition of the "native" population' close by, and that 'well-considered measures of water-supply, drainage, paving, cleansing and general constitution in these towns would be attended with most beneficial results to the health of the troops quartered near them'. All the "native" towns had some system of cleansing and dealing with human excreta and other nuisances; and vaccination was already a part of the general medical activities; nonetheless, the Commission concluded, there was much more to be done (Sanitary Commission,

1863:77, 81; Statistical Abstract, 1870:53).

The Royal Commission report thus used a military argument to raise the priority of sanitary work, and this gave sanitation the official basis which it retained during the rest of the nineteenth century. This left sanitary policy restricted to the towns and military areas. This was foreshadowed in the report itself, which reflected the terms under which it had been established. Its proposed improvements were for the towns "in proximity to military stations" (ibid:para.35). The Government of India, after quibbling about the estimates of military mortality, accepted the report and implemented the proposal to establish Sanitary Commissions in each Presidency, with advisory but few executive powers. The Sanitary Commissions were replaced after two years by a single Sanitary Commissioner each, and by 1868, one for each of the Provinces. In the following twenty years there was little evidence of real achievement, partly because of the subordination of sanitary officers to medical ones, and partly because of the restriction of sanitary concerns to official circles. In addition, there was still considerable technical dispute about the relationship between sanitary measures and medical science. The relative importance of different sanitary proposals was hotly debated, especially (before 1880) with respect to the role of clean water in preventing cholera (Farrell, 1973; Hume, 1984).

The I.M.S. was by no means convinced of the necessity of separating sanitary from medical work. Gordon argued in 1866 that the Sanitary Commissioners would unnecessarily limit the functions of the army medical officers, and the Indian Medical Gazette waged a fierce war against the appointment of Major G.B. Malleson (a layman) to be head of the Bengal Sanitary Department in 1866 (Jaggi, 1973:98-9). It was clear that the Indian authorities had little training in epidemiology, as understood in Britain at the time, and this helped to render the sanitary commissioners' work almost valueless. For example, in the 1870's

the Bengal Sanitary Commissioner was attacked in the London press for apparently doing little beyond collating vital statistics which he was unable to analyse to any effect. Nonetheless, the Commissioner claimed that there was no evidence linking the spread of cholera to polluted water supplies, in spite of the evidence which had by now convinced most doctors in Britain (ibid:102-3). K. Macleod, editor of the Indian Medical Gazette in the 1880's and Professor of Surgery in Calcutta, was a staunch supporter of the claim that clinical practice was the best training for epidemiological and sanitary work, thereby justifying the subordination of sanitary matters to the control of doctors whose training in public health was non-existent.

The main effort of the Sanitary Commissioners was focussed on the towns close to military stations - they were excluded from any concern with the cantonments and the European 'civil lines' themselves, which remained the responsibility of the army (Harrison, 1980:173). Increasingly these towns had local Municipal committees with formal responsibility for conservancy and town improvements, with some of their members elected. Much of the early focus of these committees was on conservancy - the removal of faeces from residential areas. In Allahabad in 1870, 280 sweepers were employed to collect sewage, and 90 drivers to take it out to be buried; in Calcutta in 1867 a municipal railway had been built to deal with the transport problem (ibid:182-3). But the financial limits of these committees stopped them from making a substantial impact on sanitation. Thus the proposals made by Ranchodlal Chhotalal, the first non-official Indian to be made Chairman of the Ahmedabad Managing Committee, were greeted with considerable opposition. In 1883 Ranchodlal proposed better water supplies and drainage, better hospitals and more planning controls over housing; his vehement opponents attacked the increased taxation needed to pay for them (Gillion, 1968:136-8). Eventually, in 1891, an improved water-supply scheme was implemented, but it was only in 1903, after the Municipality had been ordered (by the Bombay Government) to take the advice of

experts, that the drainage scheme was completed. Similarly, in Allahabad, the water-supply scheme first mooted in 1883 was in operation by 1891 but a drainage scheme to deal with the extra water entering the city was not started until 1913 (Harrison, 1980:186).

This delay in the provision of drainage systems (common throughout Indian towns, because of the extra expense involved) meant that the introduction of clean water supplies actually seems to have **increased** mortality rates. For six north Indian towns, recorded death rates in the five years following the introduction of filtered water supplies were higher than in the five years before (Klein, 1973:651). The most likely explanation is that the surplus water formed stagnant pools, ideal breeding grounds for mosquitoes, thus increasing the spread of malaria, though cholera deaths, and those due to dysentery and diarrhoea, probably did decline.

Pressure from Britain was a major reason for the reopening of sanitary issues in India in the late 1880's. Florence Nightingale was a key influence in the pressure on the Indian Government to improve sanitary arrangements in the villages, which by common consent had been almost totally ignored up till then. There was, at the time, no agency to implement the rules which had been established for village sanitation. Decentralisation had only really reached the Provinces in 1872, under Lord Mayo's reforms, and the larger towns were given some autonomy in 1882, with the Ripon reforms. A new extension of local Government was set in train, with Acts in Bombay (1889) and in other parts of the country, designed to promote district authorities who would have sanitary measures as one of their primary concerns. Training courses in Hygiene and Sanitation were expanded, and graduates were brought into sanitary work over the next ten years. But the extent of activity was severely restricted, not merely by the shortage of funds available, but also by the limitations which policy-makers believed were set by

the "ignorance, prejudices, callousness, and superstitions of the people" (Harvey, 1895:5).

It is possible to regard this view as a way of blaming the poor and the sick for their own conditions, in order to escape the responsibility for ameliorating the situations which were accepted as the real causes of the high rates of morbidity and mortality. But some doctors advanced more sophisticated arguments to the effect that European methods of disease control were inapplicable in India, because of social (e.g. caste) and environmental (e.g. the monsoon) barriers (Arnold, 1985:6). It is clear that the medical administrators were uneasy about their record in the santary field, particularly when challenged in international settings with responsibility for the cholera epidemics which attacked Europe from time to time, and emanated from Bengal (Jaggi, 1973:103). On the other hand, they were undoubtedly correct in asserting that the cost of implementing sanitary improvements throughout rural India would be beyond the financial limits of Britain, let alone of the Indian Government. Funding problems were probably exacerbated by the policy of linking sanitary reform so closely to local governments with even more inadequate sources of finance than the towns had.

There were also good grounds for supposing that attempts to intervene in the provision of water supply, the control of sewage, or other aspects of the everyday life of villagers, would lead to great hostility and little success. There was the experience of vaccination as a guide: frequent rumours of the danger of the treatment, and general hostility to vaccinators, was a recurrent feature of the life of the medical department. This was partly the fault of the vigorous campaigns which tried to eradicate inoculation, which was much better established as an indigenous form of smallpox prevention, but which may have increased the risk of transmission to the unprotected (Arnold, 1985:8). The experience of the response to plague measures (see below) after 1896 reinforced this view. As alien rulers, with

little understanding of the ways of life of their subjects, it is likely that their sanitary measures would be unsuccessful, though in moral terms this might not justify the pathetic attempts which were actually made. Expenditures on preventive medicine were always small, as a percentage of overall public expenditure or relative to medical expenditures, and probably only water supplies and some vaccination programmes made any serious impact on morbidity and mortality before the Second World War.

This was despite the awareness of links between sanitary provisions and the health of a population, especially in urban areas where collective arrangements for waste disposal, water supply and drainage were major concerns. As in Europe, the history of town planning until 1900 was almost entirely a matter of sanitary provisions, fuelled by the demand from the wealthy that they not be infected with the diseases of the poor. In India, this distinction took on a racial form, with the attempts to protect the European, civilian and military, from 'native diseases'. This lay behind the concern of the Sanitary Commission and was manifest in the organisation of the reports of the Sanitary Commissioners. But it achieved its most notable result in the separation of city from cantonment, or the attempt to place physical barriers between Indian and European, which had been specifically deplored by the Royal Commission (Sanitary Commission, 1863:79), but which accorded with theories of contagion through bad 'air' (Harrison, 1980:174). Thus conditions in the European areas were much better than in the Indian ones: roads were paved and swept, water supply and drainage was improved to a higher standard, and much earlier, and the degree of crowding was infinitely lower. But in the European areas, sewage removal arrangements differed little from those in the rest of the city, at least during the 19th century, and provisions for the Indians living there (servants, traders etc.) were possibly even worse than in the towns (ibid:182).

After 1900, Improvement Trusts were established in many of the larger towns, and (among others) Patrick Geddes was asked to give advice on the development of the urban areas. While these developments were prompted by the experience of the plague, and out of a concern for the appalling conditions in the slums, they only had power to control new building beyond the city limits. Any attempts to improve working class housing ran into overwhelming opposition, and had little support from the municipal committees, since they were so expensive. Despite Geddes' propaganda, only in Hyderabad (where the Nizam gave considerable support) was there any substantial attack on insanitary conditions (Meller, 1979:347).

Sanitary reform in India thus has to be seen as a qualified failure. Even in the towns most directly amenable to British influence and action, the conditions of life of most inhabitants remained appalling, with very high mortality and morbidity rates in the worst areas, and only the areas where most Europeans lived showed the benefits of civic concern. It is this racial distinction, and the much higher significance of State activities in many Indian towns, which provide the main points of difference between Indian and British experience in this field. Despite having a more centralised, active and interventionist Government than in Britain, and one which attempted to draw on British experience, India gained remarkably few benefits. Capitalist development, and the rapid unplanned increase of the urban population, led to slums, over-crowding and urban squalor in India just as in Europe.

PLAGUE

Plague was probably fairly common in India before the coming of the British, and its association with rats was known (Anstey, 1936:72). But it seems to have disappeared from India in the early nineteenth century, before being reintroduced from China

through Bombay in 1896. Since its signs are fairly distinctive, and it generated such horror and official inquiry, deaths from plague might well have been fairly accurately recorded. If so, the estimates of some 15 million plague deaths in British India, and 18 million in the Princely States, between 1896 and 1921, cannot be far off the mark (Census, 1921:350). The disease spread quickly, to most parts of the country, helped by the railways and the growth of trade and commerce. The urban poor suffered most, and then, panic-stricken, escaped into the rural areas, taking the disease with them.

The special point to note about the treatment of plague by the British derives from the fact that plague was reintroduced into the country at a time when measures for its control and prevention were understood, yet the response of the authorities was almost totally ineffective. The immediate response of the Bombay authorities was drastic: sufferers were compulsorily removed to hospital, the infected were segregated, premises evacuated, a sanitary cordon was attempted around affected areas and travellers were medically inspected. These measures were inadequately explained and few people accepted the rationality of what was proposed. Some attempted to resist these measures openly, either as traders rejecting bans on exports or the movement of goods, as mill-owners rejecting steam-cleansing, or as Jains and others destroying rat traps. Others merely avoided the control measures, by concealing infected people and then dumping their dead bodies anonymously in the street, escaping around cordons, or refusing to leave infected areas for fear of theft from their unprotected houses (Klein, 1973). When pushed too far, they rioted.

The clash between Western medicine's arrogant self-confidence and its failure to deal with the plague is well indicated by the extent to which the medical authorities had to compromise with Indian opinion. Originally, the authorities demanded that all patients be treated by Western doctors, but

they were forced to accept that patients could use **hakims** and **vaids**, and to deny any claim that plague inoculation would be made compulsory (Arnold, 1985:10-11). By 1900, the Sanitary Commissioner noted, the plague epidemic was treated as a political emergency, not a matter of public health, and he argued that this was due to the fact that the idea of public health was alien to the sympathies and traditions of the people (Sanitary Report, 1902:117-21). Dealing with the threat to trade and social order became paramount: treatment and control measures had to follow behind these imperatives, and the Imperial Government withdrew from active attempts to intervene in the spread of the disease, and merely 'responded' to calls for medical services (Klein, 1973).

MEDICAL SERVICES

The Company began to set aside special houses for its sick employees in the 17th century, but it was not until the end of the eighteenth century that separate provision was made for the 'native' indigent sick, in Calcutta, Madras and Bombay (Jaggi, 1973:75-88). The practice of separate provisions was generally maintained, though in some places non-official Europeans might be allowed access to the hospitals designed for civil servants. In the general hospitals, there were some wards for Europeans and Eurasians separated from those for the rest of the population. Medical theory in the early 19th century stressed the desirability of removing the sick from their homes and localities. Those in hospitals were more obviously under medical control and observation (Arnold, 1985). But dispensaries were cheaper, and more popular. They were often attached to the new hospitals. The Calcutta Medical College had a hospital of its own, and used several of the other Calcutta dispensaries for teaching purposes in the 1830's.

TABLE 3

USE-RATES OF HOSPITALS AND DISPENSARIES BY PROVINCE, SELECTED YEARS

Province	Year 1881	1891	1901	1911	1921	1931	1939
Bengal	1.4	2.0	4.9	£ 6.1	+12.2	+13.0	15.0
Madras	4.6	7.9	11.7	13.6	17.5	27.6	39.6
Bombay	7.6	9.5	7.8	10.0	11.7	16.5	24.4
Punjab	8.0	12.2	14.6	20.1	23.5	51.9	56.2
U.P.	3.5	6.4	7.7	9.0	12.4	14.2	14.9
C.P. and Berar	5.6	8.6	13.5	12.8	13.5	18.9	25.4
Assam	1.1	5.9	11.9	*10.9	21.3	25.0	20.8
Bihar	n.a.	n.a.	n.a.	n.a.	} 8.6	16.3	18.5
Orissa	n.a.	n.a.	n.a.	n.a.			23.2
N.W. Frontier[1]	n.a.	n.a.	n.a.	19.7	14.7	27.5	46.4
Baluchistan[1]	n.a.	n.a.	n.a.	27.7	39.8	69.7	78.5
Total (British India)	3.7	6.0	8.6	10.8	14.1	22.0	26.3
(N in millions)	(7.3)	(13.4)	(19.9)	(26.3)	(34.9)	(58.7)	(77.7)

Note: Use-rates are reported hospital and dispensary out-patient attendances (N) per 100 population recorded in that Province in the Census of that year, or (for 1939) the closest year. British India excludes Burma in this table.
£ Bengal figures in 1911 exclude the area of East Bengal, included with Assam (*).
+ Bengal figures in 1921 and 1931 include East Bengal but exclude Bihar and Orissa.
1. In the case of N.W.F.P. and Baluchistan, the population used as denominator is that of British territory and the associated Agencies and Tribal Areas, whereas for the other Provinces only the population within British-ruled areas is assumed to use these facilities.
Sources: For 1881 and 1891, Reports of the Sanitary Commissioner, relevant years; for 1901 onwards, Statistical Abstracts, relevant years.

The extension of these facilities beyond the Presidency towns was slow: not until the 1830's was there much development. Dispensaries, primarily for out-patients but with some inpatient beds and operating facilities, preceded hospitals proper. In 1838 Lord Auckland, then Governor-General, sanctioned an increase in Government dispensaries in Bengal and established them on a more formal basis, specifying the grade of doctor to be in charge and the total cost (Rs250-300 per annum) which Government was prepared to bear, any excess to be found from 'native' contributions (Sykes, 1847). By the early 1840's there were 17 dispensaries, in most of the major towns in the Bengal Presidency, treating approximately 100,000 cases annually. Madras was slightly slower to act: apart from two dispensaries in Madras Town (one dating from 1828, the second from 1837) there was little growth before the mid-1840's, and in 1848 less than 50,000 out-patients were seen, with a Goverment expenditure of Rs29,000 (Medical Reports, 1850).

However, growth in the following years was much faster in Madras and Bombay than in Bengal, and the Punjab Government acted even more decisively to establish medical facilities for the general population. In Punjab, the Government was "deeply sensible of the benefits which dispensaries are likely to confer on our poorer subjects" (Punjab, 1849-50 & 1850-51:151) and opened 33 dispensaries, treating over 70,000 cases a year by 1855 (ibid.,1854-5 & 1855-56:113). This pattern continued throughout the period up to 1939: Table 3 shows that use rates per 100 population apparently differ fairly dramatically between the Provinces, with Punjab rates (and later, those for Baluchistan and the North West Frontier Province) usually well above the others. Some caution must obviously be expressed about these figures. Use-rates tended to rise in times of epidemic or famine, and since these were not national calamities they will affect the inter-Provincial comparisons. In addition, it would seem that in some periods numbers were inflated, either to keep a dispensary in existence or to demonstrate the assiduous work done by the

dispensary doctor (Bengal Sanitary Report, 1880). Nevertheless, these patterns seem fairly stable, and do seem to represent both different levels of provision and different degrees of 'use' of Western medicine. They say nothing whatever, of course, about any benefit which might have been gained from a visit, and it is not possible to distinguish between multiple visits by a small number of people, and occasional visits by a much larger number.

To begin with, these facilities were restricted to the major towns, but a spreading of dispensaries occurred with the devolution of government after 1880. Thus in 1881 one quarter of all out-patients attendances in Bengal were accounted for by the Calcutta hospitals and dispensaries; this had declined to 13% by 1891, and to 6.5% in 1901, though Calcutta still dominated the in-patient totals. As municipalities were established after 1870, and district and local boards after 1890, there was a steady increase of expenditure on medical matters, and the creation of more dispensaries.

STATE INTERVENTION IN MEDICAL CARE FOR WOMEN BEFORE 1947

There are at least two ways to see the attempts by the State to provide medical care for women and children and to explain the relative failure of these attempts in India. The first stresses the desire by the State to overcome the gross inequalities in access to health care, as part of a humanitarian attempt to reduce mortality and morbidity rates amongst the most disadvantaged groups in the population; the failings to do so (in this perspective) are usually explained by the resistance of the local society to change in the desired directions. This view is, of course, the one held by apologists for Empire, and appears regularly in health reports and discussions by Government personnel. An alternative view suggests that the extension of health services is used by the State to gain access to the family, as

part of an attempt to control the reproduction of the labour force and the physical 'quality' of labour, and thereby to increase its degree of social control; failure is to be explained in economic terms, on the grounds that there are insufficient benefits to the ruling classes from such interventions except in the case of the skilled working class and the members of the State apparatus itself.

Under the British, it seems clear that elements of both accounts are necessary. Once it was clear that women and small children were indeed suffering high levels of morbidity and mortality which the existing clinics were unable to deal with, the consciences of prominent members of the British community in India were sufficiently upset for several moves to be made to overcome the situation. Viceroy's wives seemed to feel it their duty to raise funds for the amelioration of the position of women in India. Lady Dufferin established a fund in 1885 to provide medical aid to the women of India; Lady Curzon established a fund to pay for the training of indigenous midwives, in 1903; Lady Chelmsford established a League to train Lady Health Visitors and fund maternal and child health work, in 1920; and in 1924 Lady Reading established a fund for the Women of India, which paid for a hospital in Simla and a training college in Delhi.

The proposals for improving medical services for women took the following major forms: the employment of women doctors and the training of women medical students; the establishment of women's hospitals and wards, staffed by women; and the training and employment of subordinate female staff, notably health visitors and indigenous midwives. The first two of these were seen as of particular benefit to the respectable classes:(N.A.I., Home, Medical, 1887:32 A)

> "having regard to the social habits and customs of this country, where the seclusion of females among the better classes is the rule, the need of trained female native doctors and nurses is manifest and urgent."

The respectable women were also expected to benefit from schemes such as those introduced in U.P. in the 1890s, in which female doctors visited **parda-nashin** women in their homes (though since European and Eurasian women were also visited in this way it is not clear how the scheme worked in detail). By the turn of the century there were about 3750 of such visits a year in U.P.; twenty years later this had risen to over 7000 (Civil Hospitals and Dispensaries, U.P., relevant years). This scheme was obviously designed for the relatively wealthy in urban areas; for the poor there were female dispensaries, and the attempts to train the **dai**, both of which depended upon women doctors.

The employment of female doctors in India dates from 1869, when the first American woman missionary doctor, Clara Swain, arrived. Other missionary doctors arrived in the 1870s, and some women returned to Britain to complete their medical training as soon as this was possible. The first female doctor to be employed by Government seems to have been Elizabeth Beilby, asked to establish a woman's hospital by the Lahore Municipal Committee in 1885. More substantial hospitals under women doctors were opened in Bombay (the Cama Hospital) in 1886, and in 1884 in Madras (Balfour and Young, 1929: ch. 2). After 1885, the Dufferin Fund brought in European female doctors on a more regular basis, and began to organise the building of hospitals and the employment of staff. The numbers employed grew very slowly, and it was clear by about 1907 that more support was needed from the Government if salaries were to be increased and careers were to be properly organised. In 1914 a Women's Medical Service was established, with the assistance of an annual grant from the Government of India. Salary scales and other conditions of service remained much below those of the I.M.S. By 1928 there were 44 doctors in the Women's Medical Service, compared with the 750 men in the I.M.S. at the same time.

The admission of women to medical training in India dates from 1875, when Mary Scharlieb and three others were admitted to the Madras Medical College, and gained a school diploma three years later. In Bombay and Madras, women were admitted to the medical colleges in 1883, over the objection of the medical college staff (Jaggi, 1972:93-110). In Calcutta, all women students were provided with scholarships, and the Dufferin Fund also prompted municipalities to provide scholarships for women to be trained in medicine. The numbers of women in medical schools and colleges rose steadily, though it is difficult to provide a clear picture because the sources on the sex of medical students are not always consistent. In some years, figures are tabulated by institution, possibly meaning that women attending the 'male' medical colleges were classified as men. But the proportion of women was always very low. The scope of female medical education was boosted in North and South India by the opening of female medical schools and the Lady Hardinge Medical College for women in Delhi in 1916, but as late as the 1920's fewer than 20 women a year were receiving the higher medical qualifications (MB BS or LMS) in the whole of India, and less than 50 were passing out from the medical schools with the lower qualification (Quinquennial Reviews, relevant years). Growth in the 1920s was faster: in 1928 there were 253 women studying in medical colleges (121 at Lady Hardinge College) and 445 at medical schools or 7.6% of the total. In 1937 the figures were 475 and 964 respectively, and the proportion had risen to nearly 12% (Balfour and Young, 1929:121-2; Quinquennial Review, 1936/7). The dominance of Indian Christian and European or Eurasian women was overwhelming until the 1930s: thus in 1926/27 nearly 2/3 of those at female colleges and schools were from these groups, though this had declined to 1/3 by 1936/37 (Quinquennial Reviews, relevant years). Throughout this period it seems to have been accepted that the proper work of female doctors was solely concerned with women and children: they were not expected to challenge the dominance of men over provision for males or many areas of general surgery and medicine, and Balfour and Young tactfully discuss some of the

disputes over prcedence which emerged as members of the I.M.S. attempted to control the women's hospitals as well as their own (1929:43-5).

Female dispensaries, staffed only by women, began to be established in North India in the 1890's. A major limitation to the speed at which they could be expanded was the number of female doctors. By 1920 there were 76 medical women employed by different levels of Government for the whole of U.P., and 35 for Punjab; there were 108 in U.P. in 1930 (Balfour and Young, 1929:168; Civil Hospitals and Dispensaries, U.P., 1930:13). Female attendances at dispensaries and hospitals, throughout the period for which data are available, show much lower consultation rates for women than for men, not only as in-patients (well below male levels) but also as out-patients. As Table 2 shows, at the beginning of this century consultations by women at hospitals and dispensaries were rarely above 50% of the level of consultations by men. Where figures are available for children, they suggest that girls (aged 12 or less) were taken for consultations about 60% as often as were boys. These figures exaggerate the access of women to dispensaries, since some women would be represented at the clinic by a male relative, who would consult on her behalf (Balfour and Young, 1929:34). Consultations at female dispensaries raised consultation rates by women, but the number of female dispensaries was never large enough to make a substantial difference.

TABLE 4

FEMALE PATIENTS TREATED IN HOSPITALS AND DISPENSARIES AS A PERCENTAGE OF MALE PATIENTS, SELECTED PROVINCES AND CITIES

Province/City	Years				
	1881-1890	1901-1910	1911-20	1921-30	1931-40
Bombay City	n.a.	58	87	62	42
Rest of Bombay	n.a.	45	46	43	46
Calcutta	25	49	50	47	57
Rest of Bengal	n.a.	32	30	32	38
Madras City	50	74	71	63	n.a.
Rest of Madras	43	43	40	45	n.a.
Punjab	31	47	54	64	n.a.
North-West P./U.P.	34				

Source: Kynch, mimeo; for 1881-90, Administration Reports, relevant years

Note: These figures are not all for the full decade, but are annual averages for at least 7 years in each case, and exclude children.

It is difficult to keep track of all the various attempts to improve midwifery in India by training local midwives in improved techniques. The earliest example from North India is reference to a course held in Amritsar from 1866, still in good shape in the early 1880's when 9 or 10 were being trained every year. A class was established in Bareilly in 1867, and a Lahore class, founded in 1876, was expanded with scholarships etc. in 1883, and a new lady doctor, appointed in 1885 (N.A.I., Home, Medical, 1887:76-83 A). These attempts were not widely copied; in Bengal there was little support from the medical establishment, and the classes (run by men) could have little practical instruction because of the total absence of maternity ('lying in') cases in the hospitals and dispensaries. Interestingly, the Civil Surgeon in Bareilly argued in support of midwifery training on the grounds that it might help to reduce infanticide; the passing of the

Infanticide Act three years later heralded a far more intensive intrusion into matters regarded locally as private, family affairs, than was ever considered for purely medical purposes. The closest to an attempt to get more direct access to maternity cases was a proposal to pay women who were prepared to attend hospitals to have their babies: this was not in order to reduce the neo-natal mortality rate but to provide teaching cases for the **dai** classes and for medical students (U.P., 1881:312).

Two points should be made about **dai** training. Firstly, the scale of such training ebbed and flowed, along with the length of the courses and the financial attractions offered. Thus before the First World War between four and five hundred **dais** every year were receiving certificates for successfully attending courses in U.P. but in the 1920's less than 50 a year were under training (U.P., relevant years). Secondly, even its proponents admitted that they had little success in training, and even less success in supervising the trained **dai** (Balfour and Young, 1929:128-40).

The impetus for the development of much of the maternal and child welfare work done in India came not from the State apparatus but from private funds raised by leading British women. The State did respond by contributing funds to these schemes, but it was not really interested: witness the fierce rearguard action needed for women to save the grant to the Women's Medical Service from financial cuts threatened by the Inchcape Committee in the 1920's (Balfour and Young, 1929). The limits of State concern for maternal and child health can also be seen in the debates surrounding the attack on the quality of Indian medical education, mounted by the General Medical Council in response to nationalist pressures and the Indianisation of the Indian Medical Service (Jeffery, 1979). The G.M.C. complained that even the medical college hospitals were not seeing enough maternity cases to allow the medical students to gain practical experience, and it was this, rather than any other consideration, which increased attempts to attract women to hospitals for their deliveries.

Thus by the time the British left there was an infrastructure of health services directed specifically at women: female dispensaries, staffed entirely by women, existed at least in the District Headquarters towns, and there were also some women trained to nursing positions, again largely staffing clinics in the larger towns. There had been no concerted effort to improve the availability of medical services to rural women: the attempts to train **dais** were obviously sporadic, again urban biassed (since they depended on female staff to do the training) and they had little noticeable impact on the way in which children were delivered in most of the country. Given the small number of medical graduates practising in the rural areas, the smaller number of female graduates, and a probable absence of women providing Western drugs as pharmacists, Western medicine made little impact on women under the British.

CONCLUSION

In none of the areas of medical provision was there a coherent policy designed to attack the major causes of disease and premature death. The nearest to such a policy comes from the vacination campaigns which, if thoroughly pursued with the confidence of the mass of the population, might have made a substantial difference to the extent of smallpox. The British felt themselves to be hamstrung by cultural barriers, local prejudice, and financial constraints, but equally significant were the dominant concerns of European and Imperialist medicine. Surgery had the highest profile - it offered most possibilities for private practice, and was the section where indigenous medicine had least to offer. But it probably had the least impact on the conditions of health and disease for the mass of the population. I shall consider the overall impact of Imperialist medicine in the Conclusion to Part A.

CONCLUSION TO PART A

It makes little sense to see Imperial medicine in India in terms of *either* social control *or* humanitarian concern for an ignorant and diseased populace. The picture is more complex. Both aspects are important, and were often closely intertwined. Thus some of the ways in which medical services contributed to social control depended on humanitarian concerns: it is difficult to attract people to hospitals and dispensaries if the services they offered were irrelevant to people's perceived needs, or if the services were offered in a hostile and disparaging manner.

Issues of social control were paramount in setting the structural context within which the I.M.S. was working. Undoubtedly, when issues of wide policy were discussed, the I.M.S. referred to its role in keeping the troops healthy, the civil servants content and the masses convinced of the benefits of British rule. But these arguments were based on some weak premises. Thus the troops were not particularly healthy, and it was the British Army in India, served by the Army Medical Department under the War Office, not the I.M.S. under the India Office which was crucial to the defence of British interests in India. The masses were not, in fact, desperate to 'accept' Western medicine, and their use of dispensaries, or acceptance of training in Western medical schools and colleges, was more a matter of enlightened self-interest than a commitment to Western science or Imperial rule. The problems with vaccination and plague control brought home the extent to which Western medicine remained alien to most of the Indian population.

But the structural context, and the alien nature of British rule and provisions, do not explain why medical services were chosen as part of the symbolic justification for Imperial rule, nor why they took the form which they did. They form a set of shifting limits within which members of a bureaucratic structure acted according to their view of the purposes of Imperial rule,

the proper role of medicine, and their own preferred careers and activities. Thus while it is inconceivable that medical services could have been designed in such a way that they threatened Imperial stability, this still left considerable leeway. A successful rural health service, after all, could have contributed far more to social order than the inadequate, almost non-existent, structure which was provided.

In addition, there was considerable disagreement about what should be done. None of the policy innovations went unchallenged, nor were policy statements ever applied rigorously. In particular, the relationship with indigenous medicine was one over which uncertainties remained until the end of British rule, Attempts were being made to find common ground at the same time as official policy was to exclude indigenous practitioners entirely from the Government ambit.

Another example was in the training of personnel, especially for rural services. The Medical Degrees and Medical Registration Acts from 1912 to 1919 seem designed to force India into a 'professional' model for the delivery of health services. But the 1920s saw a flowering of attempts to use a range of local people as the bottom tier of the medical and sanitary services. Within British India, schemes for village nurses and for schoolmasters as medical workers were not merely proposed, they were implemented by British doctors working within the Government (McGuire, 1929; Hooton, 1928). Experiments like this were welcomed by the Indian Medical Gazette in an editorial in December 1924, where it was made clear that a number of experiments were also taking place, with Government assistance, in the voluntary sector; and Rockefeller Foundation support helped a similar project in Travancore (Tampi, 1931).

The Imperial impact on health in India was thus contradictory. On the one hand, it seems that changes in famine policy and food distribution helped to reduce mortality; increasing

numbers of men (and later, women) were trained in medicine to the international standards of the time; hospitals and dispensaries attracted considerable numbers of patients; and issues of disease prevention and public health provision were addressed. On the other hand, many of these measures were restricted in their impact to a relatively small sector of the population, firstly the European civil and military servants and their families, later the wealthier Indian inhabitants of cities and towns: if 19th century medical services were 'beneficial', then the mass of the Indian population could not have benefited. The preventive campaigns were never pushed fully through, and their impact was limited. Both vaccination and, more powerfully, plague control, demonstrated the failure of British health policy to come to terms with local society. It seems unlikely that health measures, *per se* had any marked influence on mortality and morbidity; but they established a framework (of personnel, ideas, institutions) which permitted more substantial post-Independence provisions, whose impact is more noticeable.

Ramasubban argues that this pattern can be defined as a 'colonial mode of health care', characterised by segregation, and by provisions for the enclave sector which kept pace with 'metropolitan' developments. The rest of the population "missed going through the period of sanitary reform which swept through most of Europe in the nineteenth and early twentieth centuries" (1984:107). There is a danger that this picture seriously over-estimates a number of elements in the story. Firstly, it was recognised that segregation could not be complete, and the interests of colonialists were linked with those of the Indians who surrounded them. Thus the most substantial urban improvements (in water supply and drainage) were designed to improve the living conditions of Indians. Secondly, provisions (in terms of hospitals and dispensaries, or places in medical schools and colleges) soon out-ran the needs of the Army and the European civil population, and this was regarded with satisfaction, not alarm. Thirdly, the most effective elements of European sanitary

reform were also largely urban phenomena: many rural areas in Europe are without centralised water supply, drainage or refuse disposal, for example. To blame the colonial government for not transferring urban solutions to a largely rural India is to under-estimate the extent of the problems involved. And fourthly, the role of public health itself in Europe is overstated by this view, since rising living standards and changes in personal hygiene were largely independent contributors to the changes in the level and kind of morbidity and mortality experienced by the European population.

The failure of the colonial Government to make a substantial impact on morbidity and mortality in India, then, did depend on factors outside their control as well as the constraints imposed by the nature of that Government. We should not dismiss these arguments as self-interested excuses merely because they were made by the Imperialists themselves. Most prominent amongst the problems faced by health policy-makers was the poverty of the Indian population (not all caused either by the depradations of British conquest in the eighteenth century, or by commercialisation and the sustenance of landlordism in the nineteenth). Not only did this mean that the diseases which they suffered were (and are) difficult to treat, and (with the technology of the time) difficult to prevent. In addition, it meant that the tax base for raising revenue to implement public solutions was also limited. The Imperialist Government did not, of course, place sanitary reform or medical services high on its list of priorities; but in some ways they were higher in India than in Britain. The British Government was inclined to leave medical provision to charitable or voluntary hospitals; medical education to independent medical schools; and sanitary reform to urban councils. All these in India were seen as the proper concern of the Imperial Government.

A further problem was provided by the radical differences in understanding the causes of disease and the consequences of

some aspects of the environment, held by the rulers and the ruled. This was most marked in the case of plague, but was also true for issues of 'conservancy', or water supply, or antisepsis. Some, or even all the views on these issues put forward in the nineteenth century may now appear to us to be wrong, without altering the fact that it was and still is very difficult to implement policies based on them in the face of uncomprehending hostility. 'Health education' still labours to persuade, quite apart from the technical problems of the solutions which were offered (e.g. for water closets, or water purification). The commitment to implement such policies may have been weak; and the constraints (financial, political, or administrative) set on health policies were undoubtedly considerable; but it remains an open question how much difference would have been made by any conceivable alternative structures or commitments, given the extent of the changes in living and thinking patterns which were necessary.

In the period after Independence, the 'alien' rulers were replaced by Indian ones, albeit ones often rebuked as no less alien in thought, speech and action than many of the British. Part B will consider how medical policy after 1947 has changed the inheritance of services left by the Imperialist power.

INTRODUCTION TO PART B

The political impact of Independence in 1947 was much less substantial than Nehru's rhetoric suggested. There were two main reasons for this. Firstly, nationalist policies were focussed on gaining power and removing the British, and there was no agreed programme for social and economic change beyond this. There were ideologues in Congress, both Gandhians and socialists, with ideas about creating a new society. But most of the Congress leadership were more interested in operating the levers of power in a Government not radically different from that being operated by the British in the decade or so before they left - as Maddison (1972) puts it, Congress were 'step-in-my-shoes Nationalists'.

Secondly, the circumstances of Independence, associated with Partition, made it difficult to consider long-term goals. Congress politicians gained power, in the Provinces in 1946 and nationally in 1947, but the normal problems of making policy and implementing it were made much worse by the conditions in which Independence was gained. There were massive upheavals caused by Partition which diverted resources and attention to dealing with the refugee problems, and the maintenance of public order. Not until 1950 did Patel (the Home Minister) manage the accession of the Princely States to the Indian Union, and deal with the major rebellion in Telengana and minor uprisings elsewhere. Inevitably, the new governments were thrown back to relying on the essentially colonial civil service - sometimes the very individuals who had been responsible for imprisoning their new leaders during the Quit India Movement five years previously.

Here I want to sketch out three key features of the post-Independence State in India: the changing role of the world economy; the management of the federal political structure; and the role of the State in the economy and in planning.

INDIA IN A WORLD ECONOMY

There was no sharp break with British economic interests after 1947. The British had dominated those parts of the Indian economy most closely linked to export markets and imported goods, and there was neither wholesale nationalisation of those interests nor a massive disinvestment, though there was a little of both (Lipton and Firn, 1976). Furthermore, there was not much new investment, either by British or by other companies, prior to the 1960s. In part, this reflected domestic economic policy, which was designed to protect Indian industries by, for example, high tarriff barriers. But it was also due to Indian foreign policy, which stressed balanced links with the dominant world powers, and left some American companies uncertain whether to trust the climate for investment in India. However, India's international position weakened dramatically in 1958, when its foreign exchange reserves ran very low, and again in 1964-5, when a combination of bad harvests, the 1962 War with China and the 1965 War with Pakistan depleted stocks still further. The U.S. Government used this latter opportunity to encourage a devaluation of the rupee, and shifts in policy with respect to foreign investment, agricultural policy, and population control programmes.

As Kidron (1966) and Alavi (1965) argued, the new patterns of foreign investment took very different forms from the older, Imperialist patterns. The new investment was in industrial manufacturing, in the expanding areas of the economy, technologically more advanced, more profitable, and serving the internal market rather than an export market. Companies leapt over the tariff barriers and established production operations within India. New controls on foreign companies introduced in 1972 (the Foreign Exchange Regulation Act) have served to reduce the equity shares of foreign companies, so that some companies (I.B.M. and Coca-Cola, for example) withdrew. In general, multinational corporations have preferred collaboration

agreements with Indian companies, with little foreign capital input, since the early 1970s.

Indian academics have been relatively loath to explain these changes in terms of the dependency analyses derived from Latin American writings (Blomstrom and Hettne, 1984). Discussions of the State have been more concerned to delineate local class alliances, and the implications of the changing production relationships in agriculture (Thorner, 1983). In part this has been because the Communist Party of India has muted its criticisms of Congress in order not to damage Moscow's relationship with the Delhi Government. But it also probably reflects the relative unimportance of foreign trade, foreign capital, and foreign aid, compared to many other 'peripheral capitalist' societies. There have been short periods of crisis when the Indian Government has been particularly weak, but India is not an 'export-oriented' economy; the policy of import-substitution has kept imports to about 10% of national income or less. The indigenous capitalist sector was relatively well developed at the time of Independence, having benefited greatly from the War economy, and it maintained strong links with the Nationalist movement which protected it from attack after 1947. Even after the growth of foreign investment described above, in 1981-82 only about 10% of total value added in manufaturing and mining was accounted for by foreign firms (Bardhan, 1984:44). And while foreign aid in some years has accounted for a substantial share of Plan expenditure, India has rarely had to borrow from the I.M.F., and now has a relatively low level of international public debt, with substantial reserves created by foreign remittances.

THE MANAGEMENT OF A FEDERAL POLITY

The Government of India Acts of 1919 and 1935 established a federal system of Government which the new Government of India accepted, and amended very little. The structure was altered

slightly by the inclusion of the old Princely India, and then (in 1956 and the early 1960s) the States were reorganised largely along linguistic lines and their number was reduced. But the Constitution of 1950 made little change to the division of functions and financial powers. Running this system, however, has left the formal struture unchanged but has led to a concentration of power in the hands of the Central (or Union) Government.

The financial implications of this are exhibited in the control exercised by the Central Government over State Government finances. This has taken place through the workings of the Finance Commissions (which have made 5-year distributions of tax revenues); through Central Government control over the Reserve Bank of India (the lender of last resort to State Governments); and through the working of the Planning Commission (see further below). In each case, the relative weakness of State Governments has been a cause of complaint by them, and the final arbitration of awards has been a matter of Central control.

The political aspects of these relationships have changed through time. Prior to 1965, Nehru ran a Congress Party which held power in almost all of the States, almost all of the time. Within this party, the core of nationalist politicians from the Independence movement, dominated by Western-educated groups, especially lawyers, had a considerable degree of local autonomy. Since then, a number of changes have concentrated more power in the hands of the Central Prime Minister. Indira Gandhi, in particular, used her patronage in the course of her disputes with the Congress 'old guard', which split the party in 1969-70 and again in 1975-76. While the political 'Emergency' of 1975-77 represents an extreme form of centralised power, or 'emergency regime' (Rudolph and Rudolph, 1981) it should not be regarded as an aberration. Chief Ministers of States have become aware that they can not expect to remain in power unless they have the support of the central Government and the Prime Minister, no matter what local support they might think they control.

These processes have had two consequences. The first is the increased pressure on the State governments to meet the demands of local pressure groups. Patrons within the party press claims for resources to go to certain areas or for benefits (jobs, contracts etc.) to be distributed in particular ways. The Chief Minister who causes local resentments will find that his opponents will approach the Prime Minister for his or her removal. The Central Government, by contrast, has relatively little patronage of this kind (posts, or contracts) to distribute, and is less likely to be the target for concerted pressure from within the country, than to be the focus of persuasion from foreigners wishing to gain contracts and support. The second consequence has been that in general policy terms, the Central Government has been less willing to tolerate political and administrative diversities (Dua, 1981:272-3).

The resulting pattern has been seen as increasingly populist, in that policy-making has progressed with an eye less to ideological coherence or overall rationality than to a desire to meet interest group demands, often through an expansion in the role of the public sector. Myrdal (1968:895-900) called this a 'soft' State - one which places few demands on the mass of its citizenry, and attempts to offer services, employment and other benefits without, for example, establishing a tax system or a political structure which can call upon individual resources in the kind of centralised way epitomised by Communist China. None of the policies envisaged by the political campaigns to 'eradicate poverty' (Mrs Gandhi's 1971 slogan) or by the '20-point programme' (evolved to legitimate the Emergency and revived by Mrs Gandhi when she rerturned to power in 1980) involve a direct attack on class privileges or call for the mobilisation of individual resources. Land reforms are the obvious example of this tendency: despite the fanfare of the abolition of **zamindari** (the largest landholders) very little land has been appropriated or distributed to the 'tillers of the soil'.

THE CENTRALITY OF THE STATE

The third aspect of changes in the nature of the State in India since Independence relates to the role it has taken in economic decision-making. This has taken two interrelated forms: the attempt to manage the economy through detailed controls; and the use of Plans to provide an overall coherence to the economy. Industrial Policy Resolutions of 1948 and 1956 placed the State at the centre of the commanding heights of the economy, reserving key areas (power, heavy industry, capital goods) for the public sector. Later decisions led to the nationalisation of financial centres - the banks and the insurance companies. As a result, there has been a massive rise in the numbers employed in the public sector, not only in the organs of Government but also in industries, services and financial institutions. These have been the main means by which the Government has attempted to achieve the goals set out in the five-year Plans.

Prior to the Second World War, there was really very little conscious planning by the Imperial Government. Hanson (1966) usefully describes the variety of planning proposals put forward before the War, usually by academics and industrialists outside the Government machinery. But in 1942 the Government, as part of its programme to convince Indians both that the British expected to win the War and that things would be better for the Indians if they did, established a Reconstruction Committee to make plans for coping with the situation they predicted when the War was over. This grew into a Planning and Development Department, with specialised committees drawing up plans for the five years following the War in the context of a fifteen year perspective plan (never actually produced). The topics covered by these committees covered a wide range, and included discussions on the role of the State in reducing glaring inequalities of wealth, and in the control of major industries. Hansen argues that by 1945 this activity had produced a statement of intent - the 'Second

Report on Reconstruction Planning' - which foreshadowed all the fundamental objectives and methods used in the five-year plans of the 1950's (Hanson 1966:38).

The Planning Commission has provided the Central Government with a powerful agency for affecting health (and other) policy in areas which were constitutionally matters solely for the States, because the Planning Commission has controlled the most substantial part of uncommitted funds. In recognition of the power that this control provides, the Planning Commission was under Nehru's direct control. It has remained at the centre of Indian political life ever since, except for a few spells when planning fell into disfavour - especially the 'Plan holiday' years 1966/7 to 1968/9, and under the Janata Government of 1977-79.

Although the First Plan (1951-2 to 1955-6) was really little more than a listing of existing projects, and was not adopted until after two of the five plan years were already over, the other Plans have played a substantial role in public sector expenditure patterns. The First Plan explicitly rejected the idea of total nationalisation, but the Second Plan, with its emphasis on heavy industry, also stressed that the public sector should grow faster than the private sector, in line with the Industrial Policy Resolution of 1956, and the nationalisation of life insurance companies and the Imperial Bank of India. The Second Plan ran into difficulties in 1958, as a result of a poor harvest and a balance of payments crisis, and was only rescued by considerable foreign assistance. The Third Plan continued most of the emphases of the second, but was more heavily dependent on foreign assistance. However, the planning process was challenged during the Third Plan by the revelation through the 1961 Census that the population growth rate estimates which underlay much of the Planning framework were considerably below what actually happened - 1.2% assumed against 2.1% actual growth rates (Maddison 1972:114).

By 1965 the planning process was knocked completely out of step by a combination of the war with Pakistan (and a consequent cut in U.S. assistance) and a severe drought. For the next three years only Annual Plans were produced, and the Fourth Plan (1969/70 to 1974/5) was much lower in profile and gave more emphasis to rural development. The third 'crisis of planning' arose in 1972/3, when the rising price of oil imports and another poor harvest raised the rate of inflation dramatically. The Fifth Plan was delayed, only existing in draft form for several years, and towards the end of the Plan period (1977/8) the new Janata Government attempted to replace the five year planning sequence by a set of rolling plans in a longer perspective. Mrs Gandhi's return to power in 1980 restored the Planning Commission to a place nearer the centre of power, and the five-year planning process was resumed. The Sixth Plan for the years 1979/80 to 1984/5 was finally published in 1981.

Most discussions of the planning process in India have focussed on the overall context, and on the problems dramatised by the crises of planning (see, for example, Streeten & Lipton, 1968; Bhagwati & Desai, 1970; Cassen, 1978; Frankel, 1982). It has been argued that the Planning Commission has been dependent on its closeness to the Prime Minister for its power - Nehru took a considerable interest but his successors have been less involved. The raising of the resources for the Plans has been out of the hands of the Planning Commission and in the hands of ministries of finance at the centre and the States, so that even in the public sector there have been limits to the ability of the Planning Commission to determine the patterns of expenditure, while its planning for the private sector has been much more difficult to implement. In general, the Plans have been optimistic about the volume of resources which will be raised, and about the external environment. In particular, the estimates of a growth in National Income have almost always been exaggerated and the major determinant of the growth of the

economy - the productivity of agriculture - has received less attention than it deserved.

The catalogue of criticisms is almost endless. One more which has specific relevance to health sector planning is the failure (before the Fifth Plan) to be concerned with distributional aspects of development. Until about 1970, planning was based on the premise that the benefits of increased economic output would inevitably flow (or trickle) down to benefit the mass of the poor. This assumption has come under increasing attack (e.g. Chenery et al, 1974), and alternative planning strategies have been proposed. One alternative strategy (a concerted attack on those institutions which generate poverty, especially in rural India, through land reform) has not been seriously considered either by the Planning Commission or by the rest of the Government of India. Instead, the response since 1971 has been to follow a 'basic needs' strategy; that is, to raise the importance of programmes designed to provide basic services to the mass of the population, the so-called Minimum Needs Programme. This has potentially raised the importance of 'social' expenditures (health, education, social welfare and so on) in contrast to the earlier Plans for which the 'core' sectors were always defined as those of heavy industry, power and minerals.

THE CONTEXT OF HEALTH POLICY-MAKING AFTER 1947

There are two major influences on health policy-making after 1947 which set a context of structures affecting how this developed, and I shall describe them briefly here. The first is the Report of the Health Survey and Development Committee, known by the name of its chairman, Sir Joseph Bhore, established in 1943 as part of the reconstruction planning discussed above. The second is the Central Council of Health.

The Bhore Committee published its four-volume report (G.O.I., 1946) in the tradition of British committee reports - a

detailed analysis of the available data, the evidence of expert witnesses, and recommendations produced by a secretariat in a clear and consistent pattern. However, this was not the only plan for public health work available at the time. There was an alternative set of proposals, emanating from the Congress Party itself, which had established a National Planning Committee in 1938, much under Nehru's prompting. Nehru's socialism was essentially Fabian, in spite of his visits to the Soviet Union in the 1930's, and involved national planning for a mixed economy. His more radical ideas were ground down in the intense politicking of the first years after Independence, but still retained enough vitality to lead to the establishment of the Planning Commission in 1950 as the main institution for implementing his vision of the future. But his interest in the National Planning Committee (N.P.C.) seems to have evaporated. Its reports, issued in 1938 and edited and published after the War by its Secretary, K.T.Shah, were largely ignored. By comparison with the Bhore Report, the N.P.C. report on Public Health (N.P.C. 1946) was shorter, less well argued and costed, and drew on far less detailed analysis of the existing situation. Without the support of a secretariat, or any political powerbase within the Congress Party, the N.P.C. Public Health report disappeared with very few traces, and it was the Bhore report which provided the framework for most health decision-making.

In many areas the two reports overlap. Both look towards a socialised system of health services, in which the public sphere dominates health provisions and eventually replace private medical practice. Bhore expressed this in terms almost identical to those of the Beveridge Report which foreshadowed the National Health Service in the U.K. - that "no individual should be unable to secure adequate medical care because of inability to pay for it" (G.O.I. 1946, Vol. II:17). The Bhore and N.P.C. reports also support the development of insurance-based services for industrial workers, but accept that this is impractical for the mass of the Indian population in the foreseeable future.

Both reports pointed to the significance of nutrition and general living standards as the major determinants of health, and argued that preventive measures should be most important. Both saw the integration of preventive and curative services, provided by a full-time salaried cadre of workers, as the way to achieve this, and they also called for Government doctors to lose their rights to private practice. Bhore argued for this on unusual grounds which came close to advocating a new medical police:

> "Medical supervision of work and play, of the food that people eat, of public provision for rest and recuperation as well as periodical medical examination and the rectification of faulty modes of life will be some of the many new duties that the physician of the future will be called upon to undertake. Our view therefore is that the national health organisation will tend to become a whole-time salaried service devoting itself to the development of the health of the people." (G.O.I. 1946 Vol. II: 28)

The crucial position of rural provision was also common ground: in Bhore's words, "it is the tiller of the soil on whom the economic structure of the country eventually rests" (ibid: 4). Bhore also accepted that services should be as close to the people as possible. Both proposed a system of health centres in the villages, linked to larger units at district level, though they differed in the details of how many were to be provided for a given size of population. The Bhore report specified in much more detail not just desirable staffing levels over a 30-40 year period, but also suggested a strategy for the shorter-term, the first 10 years. Both reports called for a substantial increase in the amount of public money allocated to health matters, but stressed that a shortage of trained personnel would be a major constraint.

Finally, both reports saw the need for health education - to change the habits of mind and ways of life of the mass of the population - and the need to engage the co-operation of the villagers in the work which was needed. The example of Soviet

health committees was cited by the Bhore report, based on an article by Henry Sigerist on the Soviet health service, and suggested that pioneer work at Singur, in Bengal, was proof of the possibility of it working in India.

The differences appear particularly in the topics which Bhore covered and the N.P.C. did not; and in one key area, that of medical manpower, which both discussed. Bhore urged the establishment of special campaigns against specified diseases, in particular malaria, tuberculosis, V.D. and leprosy, whereas the N.P.C. report was silent on these 'vertical' campaigns. The area of dispute was over who were the priority categories of personnel for training, and what was the proper role of semi-trained villagers and indigenous medical practitioners. These manpower issues will be addressed directly in chapter 9: here I will only note that although Bhore was willing to float the idea of 'health assistants' to relieve medical men of some of their curative and preventive duties, he saw no role for part-time health workers, who were the 'cornerstone' of the N.P.C. proposals.

THE CENTRAL COUNCIL OF HEALTH

Both sets of proposals, then, envisaged a much higher degree of conscious planning of the future pattern of health services than had been characteristic of the British period. But the framework for health policy-making after Independence was constrained by essentially the same Federal structure as that created by the Montagu-Chelmsford Reforms of 1919, amended to a small extent by the 1935 Government of India Act. This structure gave primary responsibility in health matters to the States. The Centre kept control over international aspects - quarantine etc. - and over a limited range of all-India matters, including the regulation of standards of medical education (to permit medical personnel to practise throughout the country) and the control of communicable diseases.

There were two mechanisms by which the Central Government could hope to integrate health policy in the States: through the financial incentives it could offer through the Plans, and by persuasion through the Central Council of Health (C.C.H.). The C.C.H. (and, in Family Planning matters, for a while in the 1970s the Central Council of Family Planning, later combined with the C.C.H. into a C.C.H.and F.W. [Family Welfare]) consists of health officials and ministers which meets annually to discuss health policy. It grew out of less formal meetings of a body established in 1937, called the Central Advisory Board for Health. This did not meet very often, and was replaced in 1946 by a Conferences of Health Ministers. After the third Conference, in 1950, the Central Council of Health was established, with membership of the Central Government and all the States, chaired by the Central Minister of Health. The States are usually represented by a contingent including a Minister, some generalist civil servants from the Health Ministry, and their main technical advisers from their Health Directorates. They are supplemented by a changing body of observers, usually including representatives from other cognate Ministries, the President of the Medical Council of India, a representative from the Planning Commission, someone from the major International agencies (W.H.O.; U.N.I.C.E.F.) and during the 1950's and early 1960's, people from the U.S. aid agencies, not only from the U.S. Government but also from Ford and Rockefeller Foundations. The agenda is largely set by the Central Health Ministry, though States can propose items, but it was made clear at the second meeting of the Council that, as far as the States were concerned, the conclusions or motions passed by the C.C.H. were only advisory and could not be binding on the States (G.O.I. [C.C.H.] 1954). The weakness of Central control which this exposed led some (including the Health Survey and Planning Committee [G.O.I. 1962:46-7 & 463-476]) to reiterate calls for an All-India cadre of medical administrators to replace the I.M.S.

The next six chapters are concerned with health policy-making after 1947. Once again the guiding themes will be drawn from the critical literature on health services in the Third World - a literature which is concerned to explain the 'inappropriateness' of health services through a political economy of policy-making. The criticism of inappropriateness is one which has been levelled for many years within aspects of nationalist critiques of colonial rule, and since 1965 it has become increasingly common in discussions of health service delivery in the Third World (e.g. Bryant, 1969; Morley, 1972). Since 1975 it has been the formal orthodoxy of the international health establishment (e.g. Djukanovic and Mach, 1975; Newell [ed.] 1975; World Bank, 1980). However, the arguments I shall mostly be concerned with have taken these criticisms one stage further, by claiming that this mismatch between health 'needs' and health services can be explained through an understanding of class structures and the world economy (e.g. Navarro, 1975; Doyal, 1979).

Essentially, the argument I will be confronting is as follows. Health services in India, as in other parts of the Third World, are poorly articulated with the health needs of the people because they received a colonial heritage of health provisions which was racially skewed and focussed on curative services in the interests of larger colonial interests - particularly social control. In addition, the dependency relationships established under colonialism entailed wholesale borrowings of models of health care which were unsuited for local conditions, often making health a 'commodity'. The class structure within medicine, and which medicine served, did not disappear overnight with the end of colonial rule but continued to subvert attempts to change. An established medical profession used its power to maintain its own rewards and its access to a world market, and its class links helped to recreate the same imbalances which characterised colonial medicine. International 'aid' and the operations of

multinational companies (especially in the pharmaceutical industry) reinforced these tendencies, leaving a contemporary situation in which, while the rhetoric changes, the reality is one in which mortality and morbidity experiences for the mass of the population are little different from what they were at Independence.

To a considerable extent, these arguments rest on material gathered from Africa and Latin America (e.g. Frankenberg and Leeson, 1974; Navarro, 1974; Segal, 1972; Doyal, 1979). But several authors have been prepared to extend these critiques to the Indian case. Thus critics of the patterns of public expenditure on health services in underdeveloped countries have not only argued that relatively little is spent on health, but also that urban, curative, tertiary services have received undue support. The chorus of criticism has swollen since 1970, and received the support of international institutions from 1975 onwards. For example, the U.N.I.C.E.F. / W.H.O. joint study (Djukanovich & Mach, 1975) argued

> 'Owing to the high cost of sophisticated equipment and other requirements, it tends to absorb, for the benefit of a minority of the population, a substantial share of limited resources ... curative services, and, more generally, personal services, tend to receive undue emphasis .. In many developing countries over half the national health budget is spent on health care in urban areas, the home of no more than a fifth of the total population.' (pp. 15 & 18)

Writers on the Indian pattern of public health expenditures have tended to assume that this picture also applies there. Thus Cassen, in the most substantial discussion of India's population in a social and economic context which has yet appeared, argues

> 'India's health system shares several features of the pattern of health services in other developing countries (including) a large share of health budgets devoted to major hospitals in urban centres and a consequent relative neglect of the rural health infrastructure.' (Cassen, 1978: 201)

As I will argue in chapter 6, the evidence for this claim is very poor. But other aspects of India's health services have been vigorously attacked by senior Indian commentators; indeed, it is hard to find anyone with a good word to say about them. Only the Government and official publications dwell on the positive aspects of what has been achieved by the expenditures and personnel described in Chapters 6 and 9. One example which gives more credit than most is the report of a joint study group of the Indian Councils of Social Science and Medical Research (Ramalingaswami, 1980:5):

> It is obvious that there are several achievements to our credit such as reduction in mortality rates or increase in expectancy of life at birth; the expansion of medical research and education; the expansion of the health care services including especially the establishment of the Primary Health Centres; the excellence of our specialised institutions; the control of communicable diseases like smallpox, cholera, plague and malaria; the provision of MCH services on a larger scale; the initiation of a family planning programme; and the investment of far larger funds than at any time in the past.'

However, the report goes on to argue that the weaknesses are greater still, and in Part B I will be looking at the evidence for these failings. In general, there is a shortage of good research on what happens in health service institutions in India: we are rather better served with anthropological accounts of how people organise their own health care in the absence of health services, or when they are seen to be irrelevant (e.g. Carstairs, 1956).

Nonetheless, the following criticisms are often levelled at health institutions and their workers:

1. Health services are not integrated with wider economic and social development;

2. Virtually no impact has been made on basic aspects of disease prevention and health maintenance, such as nutrition and environmental sanitation;

3. The most vulnerable social groups remain largely excluded from health services provisions, whether vulnerability is indicated by poverty, age, sex, geographical isolation or other factors such as occupation which increase the levels of disease and illness;

4. Health education is virtually non-existent; and

5. The goal of participatory involvement remains a chimera.

These points can be summed up in the words of the joint study quoted above (ibid:6):

> 'The imported and inappropriate model of health services in top-heavy, over-centralised, heavily curative in its approach, urban and elite oriented, costly and dependency creating. The serious shortcomings of the model cannot be cured by small tinkerings or well-meant reforms.'

As I have argued elsewhere (Jeffery, 1982), some of these views stem directly from the perspective usually associated with Ivan Illich, in the attempt to promote a move away from a 'doctor-centred' approach to health services and to return 'health' to the 'people'. Other criticisms are based on the presumption that the health services being offered are, in principle, desirable, but they are not reaching the groups who need them most. It is possible to develop the distinction further and argue that for some people, (Illich, 1975; Srivastav, 1975) modern medicine itself is the culprit, while for others (Navarro, 1972; Banerji, 1983) it is the capitalist nature of Indian society which distorts the potentially scientific contribution of medicine. The Ramalingaswami report cited earlier attempts, not

very successfully, to bridge these divisions, while remaining within an administrative framework which calls for yet more 'programmes' without providing an account of how the failures of past programmes are to be avoided.

The following chapters are designed to illuminate these arguments as they apply to India. Chapter 5 complements Chapter 1 by looking at the evidence for changes in health status over the period since 1947, and the different patterns which have emerged. Chapter 6 is concerned to establish the patterns of public sector expenditures in health. This picture is complicated by different financial heads under which the expenditures take place - Plan and non-Plan, Central and State - and by varying treatment of health-related expenditures such as family planning, water supply and sanitation. My underlying assumption is that these expenditures are meaningful - that money is spent in the ways in which accountants say it has been spent. As with all such discussions, however, we cannot assume that the expenditures achieve what they are supposedly designed to achieve - declining birth rates may result more from educational expenditures than from family planning, for example. But the purpose of the chapter is to establish the framework of what has been spent.

Chapters 7 and 8 will look at two aspects of the politics of medical policy-making - the role of internal pressures, particularly the impact of the Indian Medical Association, and the impact of international pressures, mediated in particular through foreign aid, pharmaceutical companies, and medical migration.

Chapter 9 focusses in more detail on policy with respect to medical and paramedical personnel, on the grounds that decisions about who to train and employ produce major constraints on policy. In a sense, the different models of health care proposed imply certain balances of personnel - 'appropriate' models implying a broad-based pyramid, 'inappropriate' ones a top-heavy

pyramid. Training decisions, while not always taken with these models in mind, thus do tend to generate one or other model or some balance of them: when the sacking of staff is difficult, and salaries take a substantial part of the budget, (as in India) then decisions about personnel take on a central significance.

Chapter 10 looks at evidence on processes within health sector institutions - what goes on in the hospitals, medical colleges, and health centres, and in the 'field'. In other words, to assess the impact and significance of health services it is not enough to know how many health centres have been built, how many staff have been employed, or how much money has been spent, but we also need to have some idea of the social organisation of these resources. The most common distinctions made here relate to the extent to which the health services are active or merely reactive - to what extent do they search for disease, or do they merely wait for it to reach the health unit? The second kind of question involves the differential access of different social groups. Particularly in conditions of severe shortages, and where there are no formal rationing mechanisms, resources flow to some groups and away from others. This chapter describes the limited evidence on these two issues.

The final chapter will consider some of the possible impacts on the health of the Indian people of the matrix of policy which has emerged, and evaluate the significance of the 'new orientatation' in health policy which has developed since the mid-1970's.

CHAPTER 5

HEALTH AND NATIONAL DEVELOPMENT IN INDIA AFTER 1947

Many societies in the Third World have experienced substantial declines of mortality since the Second World War (if not before) and these have come at much lower levels of living, and much more quickly, than was predicted on the basis of the the historical experiences of developed countries. It tends to be assumed that mortality decline in poor countries responds more to improvements in living conditions than to other changes: yet over this period, living standards, at least as measured by conventional indicators of economic growth, have not improved dramatically and in some cases have been stable or have declined. The most frequent explanation for this pattern is the availability now of powerful techniques to attack the transmission of many of the common diseases of poverty, such as malaria, cholera, or smallpox, whereas in the case of the industrialised countries, these diseases gave way to the more general improvements in living standards, hygiene, or in environmental health provisions such as protected water supplies. However, it has also been argued recently that there is a limit to the possibilities provided by disease-specific health policies - a limit set by poverty (Ruzicka and Hansluwka, 1982).

This chapter will argue that the available evidence does suggest a steady decline in mortality in India since 1947, despite the slow fall in a major component, infant mortality. The expectation of life at birth has risen throughout this period, and life expectancy at age 5 has risen more decisively still. There seems little evidence that mortality might not continue to fall over the immediate future. Yet this has happened when poverty indicators show no overall decline (despite a rise in the per capita national income); the degree of inequality in consumption has not noticeably fallen; unemployment has risen and

so has landlessness; and indicators of nutritional status continue to show a very poor general level. Because indicators of specific infectious diseases show dramatic declines (especially in malaria and smallpox, but also in plague and cholera) there is a temptation to conclude that it is the specific programmes to control these diseases which have caused the decline in mortality. Yet this conclusion flies in the face of most assessments of the pattern of Indian public health provisions, which have pointed to their urban, curative bias, and to the inadequacies of single-disease programmes in improving public health.

To begin with, I shall consider the evidence on changes in mortality in general, and on infant mortality in particular (as the best available proxy for morbidity) for different groups in Indian society. I will then consider the evidence for social and economic development in India since Independence in 1947, with particular emphasis on evidence for the differential impact of such changes on men and women, on different regions, on urban as against rural populations, and on different economic groups. Finally, I will briefly assess some explanations for these patterns. Material will be drawn particularly from the period since 1970, the years in which statistics of mortality, nutrition and living standards have become available in more reliable and detailed forms. The general model behind this account is the same as that for Chapter 1 - that health services not only respond to a (distorted) disease reality but also modify that reality, though rarely in a direct and clear-cut way. An understanding of patterns of health and illness cannot be based on the impacts of health services alone, but must be seen in terms of changes in the social and physical environment, living standards and patterns of living.

MORTALITY SINCE INDEPENDENCE

Most commentators agree that mortality rates have continued to decline in India since Independence. The major debates are about whether the timing of this decline is accurately represented by the official estimates; whether the decline in infant mortality follows that of general mortality or not; whether the position of females has deteriorated, relative to that of males; how mortality has declined in different parts of India; and what can reasonably be held to explain the different patterns of mortality decline.

The simplest measure of mortality, the Crude Death Rate, as estimated from Census returns, has declined about 40%, from about 27 per 1000 population in 1941/51 to about 16 or 17 in 1971/81 (Ruzicka, 1984:14; Jain & Adlakha, 1984:51). Figures for Infant Mortality Rates also suggest a decline, but a less rapid one, of about 25%, from 183 in 1941/51 to 132 in 1970/75 (Visaria and Visaria, 1981). A more sophisticated indicator of mortality decline is life expectancy at birth; official estimates suggest that this has risen from about 32 years in 1941/51, to 50 years in 1970/75. Table 1 lists a number of alternative estimates of changes in crude death rates and life expectancy at birth; table 2 lists official figures for infant mortality rates.

These estimates (and others like them) were derived from the censuses of 1941, 1951, 1961, and 1971, and (for 1970-75) from the Sample Registration Scheme (S.R.S.), and they have different weaknesses. All calculations using the Census make a number of assumptions about how people may have wrongly stated their ages, or those of their children or parents. Use of the 1941 and 1951 Censuses is additionally problematic because assumptions have to be made about who died or migrated during Partition. Visaria (1969) argued that the life expectancy figures based on the 1951/1961 censuses overestimated life-expectancy at birth by as much as 4 years; Dyson (1979) similarly cast doubt on the

apparent decline in infant mortality implied by the 1961/1971 calculations. These uncertainties affect the estimates of mortality decline, and account for the different figures in Table 1. The major component in high mortality rates in India has always been the high level of infant mortality, and considerable doubt has been cast on the rates predicted from the inter-censal comparison (see Table 2).

TABLE 1

ESTIMATES OF MORTALITY DECLINE

	1941/50 to 1951/60	1951/60 to 1961/70	1961/70 to 1971/80
Changes in Crude Death Rate			
Registrar-General	-17%	-17%	-20%
Visaria (1969)	-5%	-27%	
Ambannavar (1975)	-12%	-21%	
Changes in Life Expectancy at birth			
MALES			
Official life tables	+9.4 years	+4.5 years	
Visaria (1969)/Dyson (1979)	+5.3 years	+9.4 years	
FEMALES			
Official life tables	+8.9 years	+4.1 years	
Visaria (1969)/Dyson (1979)	+5.3 years	+7.7 years	

Source: Ruzicka (1984:14); for 1961/70 to 1971/80 the figure is derived from the S.R.S. average for the 9 years 1970-78, reported in Visaria & Visaria (1981), and excludes Bihar and West Bengal.

TABLE 2

OFFICIAL ESTIMATES OF INFANT MORTALITY RATES

	Rural			Urban			Combined		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1941/50	-	n.a.	-	-	n.a.	-	190	175	182
1951/60	-	n.a.	-	-	n.a.	-	153	138	146
1961/70	"	n.a.	"	"	n.a.	"	130	128	129
1972/73	141	152	146	86	87	87	132	141	136
1977/78	133	144	138	75	76	76	123	133	128

Source: Ruzicka, 1984:18; Visaria & Visaria, 1981. The first three rows are derived from intercensal calculations, possibly using survey data from 1958-59 and from the S.R.S. data for 1968 onwards; the fourth and fifth rows are averages for the two years quoted, and are derived entirely from S.R.S. estimates.

Dyson (1979) and Visaria and Visaria (1981) all argue that the estimates of I.M.R. for the 1960's are too low; Dyson, for example, suggests figures of 146 (male) and 156 (female). There are two main points at issue. In the first place, the intercensal estimates produce higher male I.M.R.s than female ones. This is implausible, since all the other evidence (from careful studies such as the Khanna project in Punjab, or from the S.R.S. figures from the 1970's) is that female death rates up to age 10 are higher than male rates, especially in the populous North Indian States which dominate the all-India figures. Secondly, if the S.R.S. estimates are reasonably accurate (as seems likely on the whole) then they imply a rise in I.M.R. between 1961/71 and 1970-75. However, the Crude Death Rate in this period seems to have fallen, which is surprising since the I.M.R. is a major contributor to the overall death rate in India.

But if the Crude Death Rate has not fallen very much since the mid-1960's, there is something wrong with either the Census results or estimates of fertility. The Censuses seem to show a similar population growth rate between 1961 and 1971 as between

1971 and 1981 - yet there is considerable evidence that the other side of the equation (fertility) has declined. Jain & Adlakha (1984) estimate that the Crude Birth Rate fell by between 8 and 14% between 1972 and 1978 (using two national surveys) and the S.R.S. shows a decline in rural C.B.R. over the same period of 11% (Sample Registration Bulletin, 1982). If fertility declined and mortality did not, population growth must have been lower after 1971 than before it. The only ways to square this circle are by arguing either that mortality rates were higher in the 1960s than official estimates suggested, or that the 1971 census under-counted the population by more than either the 1961 or 1981 Censuses did, or both. Thus population growth was probably higher in 1961-71 than previously thought (not 2.2% but perhaps 2.4% per year) and population growth between 1971 and 1981 was less than previously thought (not 2.2% but perhaps 2.0% per year)(Jain and Adlakha, 1984:52). (They note an additional complication: if the number of births has dropped then the relative significance of infant mortality in total mortality will also have declined.)

Taking all these points together, it seems likely that mortality declined between 1945 and 1955 at much the same rates as during the previous 20 years, but that there was an acceleration between about 1955 and 1965, followed by ten years when mortality may not have declined at all. There is evidence that mortality decline has resumed since then, with 1981-3 C.D. rates recorded by the S.R.S. 20% lower than those of 1975-7.

But these patterns of mortality decline are not common to all parts of the country, to both sexes, or to all ages. In general, mortality decline seems to have been faster in areas with already low mortality rates (particularly in the south of the country), faster in rural areas than in urban ones, more rapid for men than for women, and for urban children (especially boys) than for rural children, or for other age groups. All these generalisations need qualification.

REGIONAL PATTERNS

The patterns of mortality and mortality decline by States for the 1970s, the earliest period for which reasonably reliable figures seem to be available, show considerable variations. In general, Table 3 shows that the States of the Centre-North (U.P., Bihar, M.P. and Rajasthan) are ones where poverty and other features of the social organisation (low literacy rates, and poorer general social infrastructure) go together and help to explain high mortality rates which are declining slowly. Much lower mortality rates can be found in the relatively affluent north-west (Punjab and Haryana), in Maharashtra, and in some of the southern States (Kerala and Karnataka). But these States with low mortality rates include some very wealthy ones (Punjab, Haryana and Maharashtra) as well as Karnataka and Kerala, which are much poorer. In addition, Maharashtra, Kerala and Karnataka have high levels of inequality, indicated by their high 'poverty' proportions, compared with Punjab and Haryana, and other health indicators (such as nutrition data) do not seem to correlate very closely with levels or speed of decline of mortality, at least in the 1970s. In general, very little of the variation in the decline in mortality rates by States can be understood in terms of conventional measures of income and inequality. It is also clear from Table 4 that there is considerable stability in the ranking of States: ranks at the beginning of the 1970's are much the same as those at the end, and the range of variation about the All-India mean changes relatively little.

TABLE 3

ESTIMATES OF CRUDE DEATH RATES, PER CAPITA INCOMES, POVERTY AND NUTRITION, FOR MAJOR STATES

	Crude Death Rate 1971-3	%age Decline to 1978-80	Per Capita Income 1971	%age Rise to 1979	Poverty Percentage 1977-8	Nutritional Ranking
SOUTH						
Andhra	15.8	21.5%	Rs628	87%	42%	3rd
Karnataka	12.4	14.5%	Rs698	82%	48%	1st
Kerala	8.9	21.3%	Rs554	97%	47%	8th
Tamil N.	14.5	17.2%	Rs651	107%	52%	6th
EAST						
Assam	17.3	32.4%	Rs550	75%	51%	n.a.
Orissa	17.9	19.6%	Rs480	76%	66%	4th
W.Bengal	n.a.	n.a.	Rs789	69%	53%	2nd
WEST						
Gujarat	15.7	19.7%	Rs830	96%	39%	5th
Maharashtra	12.9	20.2%	Rs850	124%	48%	n.a.
CENTRE-NORTH						
Bihar	15.7	7.6%	Rs415	99%	57%	n.a.
M.P.	17.1	11.1%	Rs534	55%	58%	n.a.
Rajasthan	16.2	14.2%	Rs561	63%	34%	n.a.
U.P.	21.7	18.4%	Rs497	97%	50%	7th
NORTH-WEST						
Haryana	11.3	(+3.5%)	Rs928	97%	25%	n.a.
Punjab	11.7	15.4%	Rs1080	111%	15%	n.a.

Sources: Sample Registration Bulletin, Vol XVI, No.1, June 1982, for Columns 1 & 2; Statistical Outline of India, 1982, for columns 3-5; C. Gopalan, 'Development and Deprivation', E.P.W., Vol XVIII, No. 51, December 1983, for column 6.

Note: Per capita incomes are in current prices; nutritional ranking is based on the percentage of households with diets inadequate in calories, protein or both, and is only available for the eight States ranked.

TABLE 4

CHANGES IN CRUDE DEATH RATES FOR MAJOR STATES, 1970/72 to 1978/80

	C.D.R. 1978/80		1978/80 as % of 1970/72		1978/80 as % of all India	
	Rural	Urban	Rural	Urban	Rural	Urban
SOUTH						
Andhra	13.5	7.9	82	74	105	92
Karnataka	12.0	7.1	91	97	85	83
Kerala	7.0	6.6	85	85	49	77
Tamil Nadu	13.4	8.7	78	95	94	101
EAST						
Assam	12.1	7.2	67	73	85	84
Orissa	14.9	9.3	84	83	105	108
W. Bengal	12.8	7.0	n.a.	74	90	81
WEST						
Gujarat	13.5	10.1	77	80	95	117
Maharashtra	11.4	7.8	83	82	80	91
CENTRE-NORTH						
Bihar	15.3	7.8	94	82	108	91
M.P.	16.3	9.3	91	87	115	108
Rajasthan	14.9	9.3	85	97	105	108
U.P.	18.6	11.5	79	95	131	134
NORTH-WEST						
Haryana	12.4	8.3	89	95	87	97
Punjab	10.5	8.0	85	91	74	93
ALL-INDIA	14.2	8.6	83	85	100	100

Source: Sample Registration Bulletin June 1982.

Similar patterns appear if States are compared with respect to changes in infant mortality, though Dyson's estimates show some very surprising features, such as the low estimates for Bihar and the very high ones for Gujarat. As Table 5 shows, the rate of decline of I.M.R. varies substantially, with decline in Kerala being the fastest, from an already low level.

DIFFERENTIALS BY SEX

It has been argued (I.C.S.S.R., 1975) that females have not benefitted as much as males from the decline in mortality since the 1940s. Here the evidence from different indicators, such as the inter-censal estimates of life expectancy at different ages (Table 6), the sex ratio (Table 7), and from S.R.S. estimates of mortality at different ages (Table 8) is inconsistent. The sex-ratio figures suggest a deteriorating relative position of females, but the S.R.S. figures suggest that females, at least those who reach the age of 10, are improving their relative position. Sex differentials vary regionally. Table 5 shows the variation in sex differential in infant mortality. The southern and western States generally show male rates only slightly below female ones, or above female rates, whereas the northern States show female rates considerably above the male ones. These figures are not strictly comparable, since Dyson's figures are estimated using a variety of sources and making a number of assumptions about model populations, and he notes that figures for some States seem to be unusual. However, the overall picture is probably fairly reliable despite raising yet more problems of consistency. It would seem that the decline in infant mortality for females is almost exactly the same as the decline in the rate for males over the 10 year period, yet most States (including the largest ones) show greater proportionate declines in female rates than in males.

TABLE 5

INFANT MORTALITY RATES FOR MAJOR STATES, 1968 to 1978

	c1968		1972		1978		1978/68	
	Male	Female	Male	Female	Male	Female	M	F
SOUTH								
Andhra	133	113	123	108	129	93	97	82
Karnataka	117	106	107	88	82	67	70	63
Kerala	75	62	64	61	38	40	51	65
Tamil Nadu	142	128	122	121	107	99	75	81
EAST								
Assam	149	125	149	124	130	105	87	84
Orissa	192	179	126	136	128	139	67	78
West Bengal*	78	79	n.a.	n.a.	83	73	106	92
WEST								
Gujarat	193	222	134	122	114	123	59	55
Maharashtra	119	123	100	103	81	69	68	56
CENTRE-NORTH								
Bihar*	88	93	n.a.	n.a.	92	95	105	102
Madhya Pradesh	151	151	152	161	141	128	93	85
Rajasthan	199	229	111	137	124	134	62	59
Uttar Pradesh	210	259	186	220	154	180	73	69
NORTH-WEST								
Haryana	79	86	80	111	101	119	128	138
Punjab	110	125	108	130	104	101	95	81
ALL-INDIA	146	156	132	148	120	131	82	84

Source: 1968 figures are by Dyson, 1979; 1972 and 1978 figures are from Registrar-General, 1983.
* Bihar and West Bengal figures are regarded as particularly unreliable, both for 1972 (S.R.S.) and for the 1978 special survey.
The last two columns express the 1978 figures as a percentage of the 1968 figures.

TABLE 6

LIFE EXPECTANCY OF MALES AND FEMALES IN INDIA, 1941/51, 1961/71 and 1970/75 AT SELECTED AGES

	MALES			FEMALES			% age INCREASE c1946 to c1972	
Age	1941/51	1961/71	1970/75	1941/51	1961/71	1970/75	Male	Female
0	32.5	46.4	50.5	31.7	44.7	49.0	55	55
10	39.0	48.8	53.8	39.5	47.7	54.2	38	37
20	33.0	41.1	44.8	32.9	39.9	45.6	36	39
30	26.6	33.3	36.0	26.2	32.0	37.5	35	43
40	20.5	25.9	27.6	21.1	25.4	29.3	35	39
50	14.9	19.2	19.8	16.2	19.7	21.3	33	31
60	10.1	13.6	13.4	11.3	13.8	14.3	33	27

Source: For 1941/51 and 1961/71, Ram & Schultz (1979); for 1970/75 Sample Registration Bulletin, XVI, 1, June 1982.

TABLE 7

SEX RATIO FOR MAJOR STATES, CENSUS YEARS

STATE	1941	1951	1961	1971	1981
SOUTH					
Andhra	980	986	981	977	975
Karnataka	960	966	959	957	963
Kerala	1027	1028	1022	1016	1034
Tamil Nadu	1022	1007	992	978	978
EAST					
Assam	886	877	876	901	900
Orissa	1053	1022	1001	988	982
West Bengal	852	865	878	891	911
WEST					
Gujarat	941	952	940	934	942
Maharashtra	949	941	936	932	939
CENTRE-NORTH					
Bihar	996	990	994	954	947
Madhya Pradesh	970	967	953	941	941
Rajasthan	906	921	908	911	921
Uttar Pradesh	907	910	909	879	886
NORTH-WEST					
Haryana	}			867	877
Punjab	} 850	858	864	865	886
ALL-INDIA	945	946	941	935	930

Source: Mitra, 1978:372-3; Tata, 1982.

TABLE 8

AGE-SPECIFIC MORTALITY RATES IN RURAL INDIA

Age	Year							
	1968/9		1973		1978		1978/1968	
	M	F	M	F	M	F	M	F
0-4	59	68	53	61	49	58	83	85
5-9	6	7	5	6	4	5	66	71
10-14	3	3	3	3	2	2	66	66
15-19	2	4	3	4	2	3	100	75
20-24	3	5	3	5	3	5	100	100
25-29	3	6	3	6	4	5	133	83
30-34	4	6	5	6	4	4	100	66
35-39	6	6	6	6	5	5	83	83
40-44	8	8	8	7	8	7	100	88
45-49	13	9	12	9	11	8	85	89
50-54	18	15	18	13	18	13	100	87
55-59	25	19	26	21	27	21	108	111
60-64	42	39	45	36	44	33	105	85
65-69	56	52	57	54	58	49	104	94
70 & over	118	115	117	112	110	107	93	93
All ages	18	20	17	18	15	16	83	80

Sources: Cassen 1978:115; Sample Registration Bulletin XVI, 1, 12, June 1982.

If the information on trends in mortality is confusing, that on morbidity and the causes of death, and how they have changed since 1947, are even poorer. I shall first discuss the levels and changes in infant and child morbidity and mortality, and then deal with adult morbidity and mortality.

INFANT AND CHILD MORBIDITY AND MORTALITY

Infant and child mortality is by far the most important source of death. In the 1970s about 30% of all deaths recorded by the S.R.S. were of infants, and another 20% of children under the age of 5 (G.O.I., 1983:43). This varies somewhat by State, with Kerala at one extreme; where only 18% of all deaths are of infants, and Uttar Pradesh at the other, with infant deaths 38% of all those recorded.

Infant and child mortality can be divided into two major groups - neo-natal (within the first month of life) and post-neo-natal mortality (after the first month but within the first year). In very simple terms, most neo-natal mortality is a result either of genetic defects (so that some analysts prefer to combine them with still-births) or to infection or injury received at the time of delivery. There are limits to the extent that neo-natal mortality can be reduced, but in poor countries most impact can be made by improving the mother's health during pregnancy and the quality of midwifery services. In India, evidence about neo-natal mortality is derived from the special local studies (such as at Khanna, and at Narangwal, in Punjab) or from the less reliable (but national) S.R.S. The latter source suggests that in the early 1970s, neo-natal mortality was the major part of infant mortality, taking over 50% in both urban and rural areas in each year (ibid:39). The one exception was Punjab, where only 20% of infant deaths were recorded as neo-natal. It is not clear whether this means that the Khanna and Narangwal data are entirely inapplicable to the rest of the country.

The Khanna study suggested that neo-natal deaths were largely a result of tetanus or septicemia, received because the instrument used to cut the cord was not sterile (Wyon and Gordon, 1971). A study in Eastern U.P. in 1973 also concluded that tetanus was likely to be a major cause of neo-natal deaths (Simmons et al., 1982). The main ways of preventing this are either to inoculate the mother against tetanus before she gives birth (the child is then protected) or by ensuring more hygienic conditions at delivery. Both strategies have been attempted, but there is really no evidence of their success, since they have been introduced with some effort only since 1977, and the available S.R.S. and comparable data only go up to 1980. The S.R.S. data show no trend for 1970 to 1977, but a decline in each of the following years (Gopalan, 1985:160).

A secondary cause of early infant mortality is the poor nutritional status of the mother. Gopalan (1985) summarises some of the scanty information concerning maternal nutrition. Risks of complications during pregnancy and delivery, and of delivering low birth weight babies who are less likely to thrive, are closely related to maternal weight and height. Using a weight cut-off band of 38 kgs. (83 lbs.), and a height cut-off of 145 cms. (just under 4 ft.), he presents data which suggest that around 20% of women in the reproductive age-groups are badly at risk in pregnancy. The variations by State do not conform with expectations however: Kerala, with low infant mortality rates, has more 'at risk' women, calculated in this way, than does U.P. The explanation for this seems likely to be that U.P. women give birth more often, and higher parity children are generally at a greater risk. One reason for this increased risk is that older women, in all States, are lighter than younger women. Some of this may be accounted for by nutritional improvement over the past 30 years, since older women are also shorter, but this only accounts for some of the difference. The experience of childbearing is a significant nutritional drain on women who start the process under-nourished. In part, this is because they

seem able to breast-feed their babies relatively successfully, at the cost of their own long-term survival. Again, there is some regional variation - smaller, lighter women in the Calcutta region were less able to breastfeed successfully than were those around Bombay, in one study.

Factors like these would be expected to lead to high maternal mortality rates. The evidence for this is very poor, but a commonly-accepted estimate is that of a rate about 400 per 100,000 live births in 1970-72 (ibid:164), around 40 times the level in Western Europe. There are no estimates of regional variation or of variations by age or parity or social class. The best proxy is differential age-specific mortality rates. During the reproductive years, female rates are higher than male rates, and for some States and some years, are twice male rates (e.g. in 1980, in U.P. and M.P., ages 15-30)(ibid:162). Kerala is one of the few States where female rates are below male rates at all ages, which is the pattern in most of the rest of the world.

Maternal nutrition, then, has an impact on infant and child mortality, not just in the first month of life (small babies are less likely to survive the traumas of birth) but also after the first month, when mortality tends to relate closely to infection and nutrition - often both working together. The most common kind of fatal infection among infants is pneumonia, or bronchopneumonia, which account for up to 25% of all infant deaths in some years (Mitra, 1978:176-7; Arora et al., 1979:296). The link with nutrition is most obvious in some of the other causes of death - especially diarrhoeal and parasitic diseases, which may account for another 15% of infant deaths, and a larger share of deaths of children aged 1 to 5 (ibid.).

The proper measures of nutritional adequacy, and therefore the most accurate estimates of the extent of malnutrition, have been hotly debated in India in the past 10 years (Payne 1984). This debate has considerable policy significance, since the

Indian estimates of poverty level are based in part on the income required in order to buy a diet which is nutritionally adequate. (See further below.) One of the points at issue is whether or not mean figures for nutritional requirements (in, for example, calories) should be used. By this process at least 40% of the Indian population is in 'absolute poverty', apparently unable to get access to enough food to maintain themselves. Yet it is clear that people do stay alive in these circumstances, and so it has been suggested that the mean figures are unrealistic. There seems to be considerable variation in people's ability to maintain themselves on given food intakes; and nobody receives the 'mean' amount, if only because food is not distributed 'fairly' within the household.

The extent of individual variation is obviously crucial, and there seems to be considerable evidence that individuals of similar age, height, weight and patterns of activity may have very different nutritional needs. If this individual variation is recognised, and estimates of 'minimum requirements' are reduced, then estimates of 'absolute poverty' can also be reduced, since some of those 'absolutely poor' under the first procedure are actually able to get enough food for their own metabolism to maintain them in a relatively stable position. That is, some people may be 'naturally small', and this can be seen as a beneficial pattern of adjustment rather than an unhealthy result of inadequate nutrition which weakens people and makes them more vulnerable to infection and early death (Cassen, 1978:98). But this alternative procedure underestimates the numbers not receiving a nutritionally adequate diet, since some of those in wealthier households will nevertheless not receive enough food to eat; and others with enough food will not be well-nourished, either because disease weakens their ability to use the food they eat, or because they eat an unsatisfactory diet, or they may be well nourished at some times of the year and not at others.

This debate is, finally, rather arid. Nobody denies that very many, perhaps most, Indians do not have enough to eat. As Banerji argues, it is perhaps worth asking people to assess their nutritional position in these terms (Banerji, 1982). Attempting to refine estimates of malnutrition from the kind of data currently available (household, or per capita) seems to be wasted effort (Cassen, 1978:104). However, two points do emerge from the more detailed evidence. The first is that children under the age of two are likely to be under-nourished even in families with adequate purchasing power: Cassen cites studies in Tamil Nadu, Punjab, Kerala and Calcutta which provide evidence supporting this conclusion. A combination of late weaning, unsuitable weaning foods, and weanling diarrhoea probably accounts for this finding. The second point is that a large proportion of Indian babies have birth weights low enough to suggest that they start their lives malnourished (about 25% below 2500 grams); and that this is because their mothers are undernourished, and do not eat enough in the last few months of their pregnancies to allow their babies to grow adequately in the womb (ibid:104).

There is dispute about the appropriate nutritional standards to use in assessing the weights of Indian children. Some argue that international standards are too strict, while others argue that affluent Indian children can grow according to those standards and they should thus apply to India. But whichever standard is chosen, it is clear that under-nutrition of children is widespread in India, with one estimate of 85% of all children under 5 (Gopalan, 1985:160). The extent of *severe* undernutrition varies by State: U.P. seems to be one of the worst, with one study showing 14% of all children 'severely malnourished' (ibid.). In general, Gopalan argues that this undernourishment is a result of the inadequacy of breast-milk: there is little evidence that poor Indian women outside the major cities and their surrounding areas are using commercial alternatives. The main explanation of poor breastfeeding is the nutritional status of the mother.

Female babies and young children get even less, proportionately, than do boys. The greatest differences are usually to be found in North India, where sons are valued much more highly than daughters. Thus in U.P., one study found 42% of boys only mildly malnourished or better (by an international standard), compared to only 30% of girls. Even in Madras, where son-preferences are usually reckoned to be weaker than in North India, a recent study showed 30% of boys normally nourished (by an Indian standard), but only 20% of girls (ibid.).

The major consequences of poor nutritional status come from interactions with infection (Scrimshaw et al.,1968). The specifically childhood illnesses which can lead to death in poorly-nourished children are diarrhoea and dysentery, and diseases such as measles. Donoso (1979) suggests that 'weanling diarrhoea' (that which accompanies the shift from a breast-fed existence to a mixed diet) reaches its peak in the second six months of life but continues at a high rate until about the end of the third year. Using Khanna and Narangwal data, he suggests that most mortality from weanling diarrhoea occurs in children aged from 6 to 18 months, and that about 1 million children in India die every year in this way (ibid:105). While malnutrition does not directly cause these deaths, malnourished children are more likely to become ill (especially those in unhygienic conditions) and having fallen ill, to die.

ADULT MORBIDITY AND MORTALITY

Adult mortality is usually discussed in terms of a few major specific infectious diseases, though it is worth remembering that some 6% of adult deaths could well be from violence or accidental injuries (Cassen, 1978:108). The format in which 'cause of death' is returned from States and Union Territories has reflected this focus: as Mitra (1978:148) points out, the 'meaningful, operational and classificatorily significant' categories are

cholera, smallpox, plague, dysentery and diarrhoea, respiratory diseases, fevers, accidents and injuries, and all others (which are occasionally further classified to distinguish whooping cough, diphtheria and maternal deaths). As some of these diseases (such as smallpox) reduce in significance, so one would expect causes such as cancer or heart disease to become more prominent, but information on the epidemiology of these diseases in India is much more difficult to find. The Model Registration Scheme, which reports on a sample of some 20,000 deaths a year, is more sophisticated, but considerable numbers of deaths are not classified beyond a very general category ('fevers', 'cough') and some of the distinctions seem implausible, given the problems of data collection involved (Cassen, 1978:108).

The problem of high mortality in India has been seen in terms of separate major infectious diseases, and this perception played a dominant role in the planning of preventive health campaigns in the 1950s. The major killers of the British period were seen as plague, cholera, smallpox, malaria, and TB - with influenza an occasional mass killer, as in 1918-19. Of these, plague had virtually disappeared as a cause of mortality before 1947, and influenza has not received special attention, but each of the others has formed the focus of single-disease campaigns. Similar single-disease campaigns were used by the British (most notably for smallpox). But it was the campaigns against malaria, particularly those run by the W.H.O. U.S.A.I.D., and the Rockefeller Foundation in the 1930s and the 1940s, which provided more substantial models, since these agencies were crucial in providing funding and technical support to the Indian campaigns. The literature describing these diseases in India assumes a clear relationship between the patterns of mortality and morbidity of the disease and the progress of these individual disease-control programmes, and I shall briefly describe these in turn, though a more general discussion will be provided later on.

Cholera Cholera has historically been particularly concentrated in certain parts of India - West Bengal, Orissa, Bihar and Eastern U.P. in the East, Tamil Nadu and Andhra in the South-East, and Assam in the North-East. This pattern hardly changed from 1900 to 1965, with 12 districts in these areas being responsible for nearly 40% of all reported cases between 1954 and 1964 (Mitra, 1978:152-3). In the late 1960s some new focal areas developed - especially in Maharashtra, Gujarat and Kerala, with some declines in the older focal areas. Some mechanisms of the spread of cholera from its 'home' in the Ganges delta have been much reduced since 1947, partly by strong controls over pilgrims attending religious fairs (vaccination is nominally compulsory, and water supplies have been greatly improved). The numbers reported dying from cholera are now much reduced (possibly under 0.5% of all deaths, or less than 60,000 per year)(Cassen, 1978:84), and there seems to be some support for Mitra's suggestion that the virulence of cholera has declined, without any clear picture of why this might be. However, because cholera can be transmitted from individuals who may have harboured the disease for a month or more with no symptoms, it cannot be easily excluded from an area, and often returns in flood or famine situations. The basic conditions for its transference - insanitary water supplies and food-handling conditions - remain, unaffected by the cholera control programmes, though now perhaps being affected by the rural water supply schemes which have been a feature of the 1980s.

Smallpox The level of smallpox mortality was low by 1947, though the disease was still common. Smallpox came in periodic waves, and during the early 20th century the peaks of these waves became further and further apart, and lasted for shorter periods. After 1947 the same general trend continued, with only 1950-51 and 1957-8 recording relatively high incidence. Vaccination operations continued to reduce the incidence of the disease, but vaccination was not compulsory nor sufficiently widespread (e.g. for children) to prevent new outbreaks. Vaccination was stepped

up after 1962-63, when a Smallpox Eradication Programme was established, but this too had only an indifferent record until much more substantial international assistance was provided through W.H.O. after an outbreak of smallpox following the 1971 War with Pakistan. The new strategy involved focussing all efforts at surrounding the areas where smallpox was common and achieving a much higher coverage of the population there, rather than spreading the effort throughout the country (Basu et al. 1979). At this point there was an apparent increase in the numbers of cases, though this probably reflects the improvement in the reporting mechanisms, with over 30,000 deaths recorded in 1974, as against only 2,700 in 1971 (Mitra, 1978:160). This seems to have been the last flourish, with no new cases reported since July 1975.

Malaria In the 1940s it was estimated that there were about 75 million sufferers from malaria every year, with about 800,000 deaths a year (or perhaps 5 per 1000 population). This excluded those who died from its associated complications, such as pregnant women, or for those weakened by the disease who more easily succumbed to something else (Dutt et al., 1980:320). Pyrethrum had been used to spray breeding areas and house sites before the War, and after 1946 this changed to the use of D.D.T. An early example was in Bombay State, where by 1949 an estimated 500,000 cases a year were being prevented. W.H.O. ran demonstration projects in other parts of the country, and in 1953 a national organisation was provided, with W.H.O. and U.S.A.I.D. assistance, for malaria control. The apparent success of these campaigns, and changes in W.H.O. strategy, led to a greater effort in 1958, and a new goal, of eradication.

These programmes increased the amount of reporting of fever cases, and provided a mechanism for assessing how many of these were due to malaria; and they also collected other data on malaria morbidity. These data suggested a steady decline in the numbers with malaria, a decline which continued until 1965, when

very few cases were reported, and hardly any deaths. Since then reports of cases of malaria have risen steadily, and more rapidly since 1975. Until recently, mortality from malaria has risen much more slowly, but there are increasing reports which suggest that, for a variety of reasons, more cases of malaria are leading to death (Gill, 1985).

The usual reasons proposed to explain the apparent failure of the eradication programme are as follows. In 1965 (the year when lowest morbidity was reported) D.D.T. supplies were interrupted. There was a shortage of foreign exchange, caused by the reduction of aid from the U.S. as a result of the Indo-Pakistani War of that year, and two poor harvests. Supplies were further disturbed by the cut in the health budgets while defence expenditure rose over the next few years, and by the disruption to trade through the Suez Canal after 1967.

But there were also problems internal to the Health Ministry. The emphasis on preventive campaigns was difficult to sustain in the face of apparent success, and the policy focus shifted to population control. In addition, by 1965 most parts of the country were in a 'consolidation phase'. This meant that the special campaigns were wound down, and anti-malarial work was passed to the normal health services. But the rural health programme was lagging well behind the desired pattern (Dutt, 1980:321; Sinha, 1976:946-7). Harrison (1978:241-6) graphically describes the problems of maintaining the quality of work from the lowest category of staff. Spraying had to be done conscientiously, problems were posed by locked houses or unwilling villagers, or villages were inaccessible just at the time of year when spraying was most required. Blood-slides had to be collected routinely, and accurately assessed in time for new cases to be treated before they had a chance to spread the disease to others. But the programme was funded to very tight constraints, so that all workers had large areas or populations to deal with, there was no allowance for staff illness, desertion

or recalcitrance, and managers were always under pressure to wind down the campaign for budgetary reasons. While the control of malaria has probably quite wide margins of error, considerations such as these probably meant that there were several areas where pockets of malaria remained, some on the borders with Pakistan, where comparable anti-malarial campaigns were not being waged. There were other areas where malaria returned, but was not recorded, and remedial measures were not undertaken. In 1965 there were three substantial areas - one, the Rann of Kutch, a scene of fighting - which still contained untreated areas, and the disease has spread out from these areas since then. Anti-malarial activity since 1970 has been additionally hindered by problems of resistance to D.D.T., exacerbated by the use of D.D.T. for agricultural purposes: D.D.T. resistance was not the cause of malarial resurgence (Chapin and Wasserstrom, 1983).

Tuberculosis In 1947, tuberculosis was probably second only to malaria as a cause of death, and while malaria mortality has dropped sharply, there seems little evidence for changes in the level or virulence of T.B. It is mainly an adult disease, and for age groups over 15 it may cause as much as 50% of the deaths attributed to 'cough', or at least 10% of all adult deaths, according to the Model Registration Scheme data (Mitra, 1978:178-9; Cassen, 1978:107-9). Khanna Study data suggests that T.B. was the third most important separate cause of death after diarrhoea and pneumonia, which are more important for children (Wyon and Gordon, 1971).

The decline of T.B. in Europe was probably a result of both improved nutrition and spreading immunity, but it is unlikely that either of these is yet having any impact in India (Cassen, 1978:88-9). T.B. thrives in areas with poor nutrition, dense housing, and migration patterns which help to spread the disease - and none of these have been affected by the single-disease campaigns which have dominated public health in India since Independence. The National Tuberculosis Control Programme has

been able to show no signs of success. One reason is that B.C.G. vaccination may be almost totally useless - and this has been the mainstay of the preventive and protective activity. But in addition, T.B. control requires that cases are discovered, complete a long course of treatment, and that the treatment is effective. However, there is a tendency for most T.B. sufferers to receive general treatment for 'cough' in the first instance. They often fail to complete the full course of treatment, because they feel much better long before the treatment is completed. As a result they relapse and pass on the infection to others. They can be treated at home as well as in a sanitarium, however crowded or insanitary the home, as Fox demonstrated in the 1950s, but the problem of ensuring completion of treatment remains intractable. Finally, the treatment itself is probably only about 75% effective. It seems unlikely that the control of T.B. in India is imminent.

Other diseases The other diseases with a significant contribution to mortality are probably the other digestive diseases (diarrhoea, dysentery, gastro-enteritis) and other respiratory diseases (pneumonia, bronchopneumonia and bronchitis). The Khanna study reported heart disease and cancer among the 'top ten' causes of death, but national estimates, or ones more recent than the 1950s, are absent. It is very difficult to get any assessment of quantitative significance of these other causes of death. The most important point to note is that the main causes of mortality in India remain those infectious and water-borne diseases characteristic of poverty. The factors which have reduced the significance of some diseases (like smallpox and malaria) as causes of death have not altered the broad outlines of morbidity and mortality in any marked fashion, because they have contributed very little to changes in the living conditions of the mass of the Indian population. It is to an assessment of these conditions that I will now turn.

CHANGES IN THE LEVEL OF LIVING

The living standards of Indians is a topic which has been much discussed, on the basis of relatively poor data. It is possible to conclude with qualified optimism, from the kind of data presented in Table 9, that average income levels are rising, that the amount of food available in the country per head is rising (if the 'right' years are used for comparisons) and that the inequality of income in India is less than in many comparable countries. On the other hand, a slightly different set of indicators will show that the proportion of the population living 'below the poverty line' is stable or increasing, that unemployment, poor housing, and other indicators of poverty show no improvement, and that the lot of India's poor is deteriorating in other ways as well.

One way of reconciling these two extreme views is by looking at regional variations, since much of the improvement in income levels can be accounted for by rises in a few States - notably Punjab, Haryana, Gujarat and Maharashtra - whereas in the Hindi heartland of U.P., Bihar, Rajasthan and M.P., per capita income levels in the 1970s probably declined by about 35% (Bardhan, 1984:93). The mechanisms of changes in levels of income or wealth inequalities are, however, poorly understood, (ibid:94). There is little agreement , for example, about the impact of new agricultural technologies on income inequalities or the level of poverty, particularly in wheat-growing areas, let alone the likely changes suggested by any emerging trends. I do not intend here to resolve these issues, but to present the major elements in the debate.

TABLE 9

INDICATORS OF NATIONAL INCOME, AGRICULTURAL OUTPUT, AND CONSUMPTION

	1950/ 51	1955/ 56	1960/ 61	1965/ 66	1970/ 71	1975/ 76	1980/ 81	1981/ 82	1982/ 83
Net domestic Product (Rs bill) (1970/1 prices)	168	200	244	273	345	402	475	499	505
Per capita incomes (Rs) (1970/1 prices)	466	508	559	559	633	664	700	720	712
Index of agricultural production (1967/70=100)									
Rice	56	70	88	78	107	125	137	137	
Wheat	38	48	61	58	132	160	201	210	
Pulses	82	97	112	88	104	115	96	104	
Net Availability Per head:									
Food grains (grams)	395	431	469	408	469	453	454	454	
of which cereals		361	400	360	418	402	417	415	
pulses		70	69	48	51	51	37	39	
Domestic Electricity (KWH)	1.6	2.4	3.4	4.8	7.0	9.7	13.5	14.4	
Cloth:									
cotton (metre)	11.0	14.4	13.8	14.7	13.6	12.6	11.0	10.7	
man-made (metre)	n.a.	n.a.	1.2	1.7	2.0	2.0	3.7	4.3	

Sources: Economic Survey 1982-83:77, 80; Bardhan, 1984:92; Tata, 1982:46, 52; Cassen, 1978:257.

Table 9 summarises some of the key indicators of changes in national levels of living. National Income has risen rapidly (in historical terms) with growth in five-year periods not less than 2.2% per annum, which is roughly the growth rate of population. At constant prices, national income in 1982 was about three times its level in 1950, and even per capita incomes were over 50% higher. The economy is still heavily dependent on agriculture, with successful crop seasons leading to higher economic growth, and vice versa, and within agriculture output has risen rapidly in some crops (notably, wheat), more slowly in others (such as rice), and has shown no growth trend for others (like the pulses). Taking all sources of foodgrains together (making allowance for changes in Government stocks, imports and exports, but not changes in private stocks), per capita availability has risen by about 12% between 1950 and 1982, but the situation has fluctuated, and the peak levels reached in 1961, and again in 1978, has not been sustained. More importantly, the share of the pulses (which are nutritionally very significant in the diets of the poor) has declined to little more than half its earlier level. Other indicators, particularly of urban consumption, suggest more steady increases, as in electricity use or in man-made fabrics, but the latter has been at the cost of cotton goods.

Estimates of the distribution of increased incomes and comsumption are derived largely from the successive rounds of the National Sample Survey. The classic studies using this source date from 1970, and draw on survey results from 1956-57 onwards. The most recent figures are from the 1977-78 survey. In principle, then, it should be possible to describe what has happened to the Indian population over this 20 year period and answer three questions: has the distribution of income become more or less equitable? has the population below an appropriate poverty line increased or fallen? and have the incomes of the poorest groups risen or fallen in absolute terms? (Cassen, 1978:237).

However, using this material seems to pose more problems than it solves. Firstly, collecting income information by survey is never very reliable; then there are problems with the representativeness of the sample at the top and bottom of the ranges in particular; the estimates in current prices need to take account of price changes, and these have affected different income groups differently; and different indicators tend to give different results (ibid:238-41). Thus only relatively large changes in indicators can be accepted as convincing evidence to answer the questions posed above, but most changes seem to be small. For example, the poorest 20% of the population seem to have about 7-8% of incomes and consumption in 1956-57 and in 1975-76 (ibid:240; Bardhan, 1984:1-2). An indicator of the degree to which rural consumption is concentrated amongst the relatively wealthy, using N.S.S. data in current prices, is that the Lorenz ratio fluctuates between 0.28 and 0.32 between 1956-57 and 1977-78 (Cassen, 1978:240; Gupta and Datta, 1984:635). Similarly, some estimates suggest that 40% of the population was below a fairly low poverty line (Rs15 per head per month in 1960-61 prices) in 1960-61, 1972-73, and 1977-78 (Cassen,1978:241,243; Bardhan, 1984:2). The only simple conclusion is that there is no clear evidence of change one way or another, for the whole country.

Slightly more complex pictures emerge from a consideration of regional variations. If the States are compared in any particular year, then areas which have experienced relatively fast agricultural growth tend to have lower poverty rates than the more agriculturally stagnant ones. On the other hand, poverty rates in States with faster rates of agricultural growth are not falling faster than in those with slower rates of growth (Bardhan, 1984:5). Thus Punjab and Haryana have poverty proportions of only 12% and 23% respectively in 1977-78, but these rates are not tending to decline (Tata, 1982:11). In general, Cassen's conclusion seems as valid now as it was in the mid-1970's:

'It seems that wherever one looks it is difficult to find any evidence of a trend of improvement for the poor. Their fate in rural areas .. is bound up most importantly with the magnitude of the harvest and in urban areas .. with the slow progress of manufacturing and service trades employment. The data on expenditure, income distribution, wages, prices and employment do not show any very distinct trend.' (Cassen, 1978:249)

This conclusion is derived largely from estimates of income and consumption. However, it is possible that in some respects, the poor are now better off because they have benefited from infrastructural investment, or from special Government programmes. Since 1971, when Mrs Gandhi's Congress Party won an election campaign on the promise to 'eliminate poverty' there have been claims that Plan expenditures have shifted towards providing the population with the ability to meet their Minimum Needs. There has undoubtedly been considerable progress in the provision of physical amenities in Indian villages. Thus the First Economic Census, carried out in 1977 in most of India, lists the number of villages with basic amenities within, or close to, their borders. In India as a whole, some 93% of villages have drinking water within the village for at least part of the year, 33% have electricity for at least some of the time, and banks, credit co-operatives, fair price shops, buses and schools, roads and post offices are increasingly available to villages (E.P.W. 1985:615-6). Some of the benefits offered by this 'overhead consumption' (as Cassen calls it) will have gone to the poor, and while we know that they are relatively disadvantaged (for example in access to schooling) we do not know whether this disadvantage has increased or declined over time.

The special programmes designed particularly to benefit the poor date from the 1970s: the Small Farmer Development Agencies, projects for Marginal Farmers and Agricultural Labourers, the Crash Scheme for Rural Employment, and the Drought-Prone Areas Programme, all come into this category. They were either short-lived, or replaced in 1980 by the Integrated Rural Development

Programme. These programmes were designed to increase incomes or production and their impact should have shown up in the N.S.S. data. There is one additional programme which might have an additional impact on the poor not measured by income or consumption expenditure data - nutrition programmes which put food into the mouths of small children and their mothers. The amount of food which has been imported and transported to feeding centres throughout the country since 1947 is impressive, but again, it is only since 1970 that nutrition programmes have been an integral part of the Plan process.

The Government of India has recently claimed that poverty has decreased, as a result of its anti-poverty programmes, concluding in the Mid-Term Appraisal of the Sixth Five Year Plan that it could anticipate the results of the 1983 National Sample Survey and that 57 million people had crossed the poverty line in two years, 1980-82 (G.O.I., 1983:8). The basis of this claim was that the expenditure on special poverty-alleviating schemes would have all accrued to the poor, but this conclusion has been strenuously denied (Sundaram and Tendulkar, 1983; 1984). As with other schemes supposed to benefit the poor, there are 'leakages'. Much of the expenditure never reaches any supposed beneficiary, but stays in the pocket of the bureaucrats able to control access to these benefits, or is diverted into the pockets of those who are not really poor. Thus one estimate is that in the country as a whole about 15% of those affected by the Integrated Rural Development Programme were above the poverty line, with the figures for some States (notably Assam and Punjab) being above 33% (Rath, 1985:241).

What is the net result of the increases in national income, the spread of social infrastructure, and the Government programmes designed specifically to relieve poverty? Most indicators of income and consumption suggest a picture of fluctuations, with no discernible trends. Indicators of unemployment suggest some deterioration; while those of

productive wealth in its most common form (land holding) would also suggest that larger numbers of people are landless or own insufficient land to sustain themselves now than at Independence.

Thus it would seem that poverty, in the strict sense of the ability to purchase a defined basket of goods, has probably not increased. But insecurity of access to the resources necessary to do so probably has increased, and dependence on the State for subsidised employment or credit has become increasingly common.

CONCLUSION

What this material seems to suggest is that mortality has continued to decline since Independence. It has not fallen steadily, with the decade after 1965 probably a period when mortality fell relatively little, if at all. It has not fallen equally for all age groups, though if official estimates of infant and child mortality before 1970 are corrected upwards, then the variation by age becomes less significant. Mortality has fallen more in the States which already had low mortality rates than in those with higher ones. Male-female differantials are inconsistent, with the decline in the sex ratio unaccounted for by indicators of sex differentials in mortality decline or life expectancy. It is difficult to account for these declines by reference to the increases in per capita income, since there is no evidence of this having benefitted the poorest sectors of the population.

Two factors might help to explain the apparent paradoxes of substantial declines in mortality, stable or declining per capita foodgrains availability, no change in the proportion of the population below poverty levels, and little reason to believe the general health services provided by the State have been very effective. The first is that protection from famine has continued to be effective. There is a variety of measures, all of them flawed because they 'leak' and leave the very poor in vulnerable

and insecure positions. But they probably do prevent the poor starving to death. The second factor is that public health measures have been more effective than the credit they have usually been given. In Chapter 6 I will assess in more detail the evidence for the pattern of public health expenditures, to begin the process of assessing this particular argument.

CHAPTER 6

HEALTH POLICY-MAKING IN INDEPENDENT INDIA: STRUCTURES AND EXPENDITURES

The most obvious feature of public sector health expenditures in India remains how little, in absolute terms, is spent directly on providing health services for the people. Taking the budgetary categories of 'medical' and 'public health', and ignoring problems of definition, generates a total figure of about Rs20 per head in 1979/80, or about 2.7% of total public expenditure (revenue and capital), about 1% of per capita national income. Most discussions of the pattern of health expenditure in India have gone little further than noting the size, trends through time, and inter-State variations (e.g. Ramasubban, 1984).

In part this is because there is little material on the distribution of these expenditures. The most readily available sources are the Five Year Plans: these deal in 'outlays', or proposed expenditures, and offer only a haphazard record of actual patterns in the previous Plans; and they say nothing whatever about non-Plan expenditures. As Table 1 shows, the Plan has never accounted for more than 60% of public sector health expenditures, but non-Plan expenditures are hidden in the budgets and accounts of the individual States. The Reserve Bank of India published summary statements derived from these accounts, and this source provides most of the information on inter-State comparisons. But this source does not go beyond the major budget heads. Barnett attempted to fill in some of the gaps, and he described this modestly as a short note and an initial analysis (1977:2); more recently, Khan and Prasad (1985) have analysed Sixth Plan expenditures, but only for Gujarat and Maharashtra. It is not clear how much data and analysis of past, State-level and non-Plan expenditures are available within the Government.

TABLE 1

PUBLIC HEALTH-RELATED EXPENDITURE

	First Plan (1951-6)	Second Plan (1956-61)	Third Plan (1961-66)	Plan Holiday (1966-69)	Fourth Plan (1969-74)	Fifth Plan (1974-79)	1979-1980	Sixth Plan* (1980-5)
TOTAL EXPENDITURES				Rs Millions				
PLAN	980	2,163	3,565	3,133	11,566	23,450	7,290	21,000
NON-PLAN	933	1,410	3,024	3,342	8,552	17,630	5,261	12,075
TOTAL	1,913	3,673	6,589	6,475	20,120	41,080	12,551	33,075
Plan percentage	(51%)	(59%)	(54%)	(48%)	(57%)	(57%)	(58%)	(63%)
ANNUAL PER CAPITA EXPENDITURES				Rupees				
Current prices:								
PLAN	0.5	1.1	1.6	2.1	2.7	7.7	11.2	15.4
NON-PLAN	0.5	0.8	1.4	2.3	2.0	5.6	7.8	8.8
TOTAL	1.0	1.9	3.0	4.4	4.7	13.3	19.0	24.2
1960-61 prices:								
PLAN	0.7	1.2	1.9	1.3	2.1	2.4	2.9	3.2
NON-PLAN	0.7	0.9	1.7	1.4	1.5	1.8	2.0	1.8
TOTAL	1.4	2.1	3.6	2.7	3.6	4.2	4.9	5.0

Sources: Plan documents (G.O.I. 1956; 1961; 1967; 1968a; 1968b; 1973; 1978b; 1981a; 1983); Ovens in Lipton & Streeten (eds.) (1968); Reddy (1972:218); Barnett (1977).

N.B. Sixth Plan total expenditure figures for the outlays; per capita figures are based on the first two years expenditures only.

These figures are not strictly comparable and the classification of total health expenditures changes in 1974 with impacts which are not known. Fifth Plan Plan expenditures exclude nutrition.

This chapter, then, is designed to answer two main questions: what can usefully be said about how much money is spent on public health in different categories, and what processes within the Government affect its distribution? The origins of health planning before Independence and the roles of the Planning Commission and of the Central Council of Health have been discussed in the Introduction to Part B. Here I will deal with the nature of Plan expenditures in health and the processes by which Plan proposals are agreed and implemented; and the pattern of health expenditures within an individual State (Orissa) during the 1970s, with some comparative material on Maharashtra and Gujarat.

As will become clear, although this account goes beyond that previously available, it is by no means complete. For non-Plan expenditures the gaps are most glaring, with few grounds for assessing the typicality of Orissa, and no information from the 1950s and 1960s. In addition, the sources on Plan expenditures are not adequate to provide the necessary detail for more than occasional glimpses of the processes involved. Further, it is utterly dependent on the reliability of Government accounting procedures, and describes the budget categories under which money was spent - which may be very different from what the terms are usually taken to mean. However, the exercise is worthwhile, if only for the doubt that it casts on the unthinking acceptance of the received view, of a major distortion of expenditure towards 'tertiary' services, which I outlined in the Introduction to Part B.

Health policy in India is not a unified concern. There are several Central Ministries which provide health services - notably the Ministry of Education (its Social Welfare Department handles most of the nutrition policy); the Minstry of Labour (responsible for the Employees Social Insurance Scheme and for overseeing other health srvices for industrial workers);

responsibility for water supply and sanitation is not solely a Health Ministry concern; and the Railways and Defence Ministries also provide medical services for a large number of people. These divisions in the Central Government are usually mirrored at State level. The Planning Commission has been the major means by which these divisions are supposed to have been overcome, but it has not been able to resolve all the problems of co-ordination. In what follows I shall be focussing on those aspects of health policy which are the responsibility of the Health Ministries, but some discussion of social insurance and nutrition is also necessary.

Social insurance schemes in India abound, with some restricted to individual industries, either in the private sector (e.g. plantations), the public sector (e.g. coal mines) or for Government servants (such as the Central Government Health Scheme), and the largest one serving employees from a large number of industries, the Employees' State Insurance Scheme (E.S.I.S.). Some of these are covered by legislation (like the Plantation Labour Act) while some employers run their own schemes. Those covered by legislation are mostly the responsibility of the Ministry of Labour, and are by now quite substantial enterprises. For example, the E.S.I.S. covers over 7 million workers and 21 million of their dependants, or some 4% of the total population; the railways employ 1.6 million people with another 6 million dependents also entitled to some medical care. The total budgets of these institutions are also substantial, with E.S.I.S. paying out some Rs850 million directly and to State Governments for medical care and expenses in 1981-82, and the Railways medicare budget the same year being Rs540 millions (G.O.I., 1984:146, 246). Although the E.S.I. Commission is usually represented at Central Council of Health meetings, it seems clear that the development of facilities for industrial workers proceeds quite separately from those of the Health Ministry, with duplication of urban medical services common (Jeffery, 1976). They have also tended to be restricted to

medical provisions, narrowly defined: the current head of E.S.I.S. has admitted, for example, that it is only recently that it has taken any interest in public health matters (Singh, 1983).

The other problematic area is that of nutrition services. Prior to the changes in orientation of the 1970's, nutrition had a very low profile within Government. Food aid was regarded as a famine prevention measure rather than a feature of routine Government services. When nutrition became more significant, as part of the Minimum Needs Programme, it was still provided as part of Social Welfare, but often in the context of school meals or feeding programmes, thus also involving Education (usually part of the same Ministry). The current attempts to integrate nutrition and maternal and child health services, particularly in the Integrated Child Development Scheme (I.C.D.S.) pose difficult issues in collaboration which do not seem to have been resolved. In what follows, neither social insurance nor nutrition services will receive the attention they perhaps deserve, because my focus will be on the services provided under the direct 'Health' umbrella.

PLAN EXPENDITURES IN HEALTH

Any account of the bare bones of planning gives little clue to the significance of planning and the process by which Plans are formed and implemented. The significance of Plan expenditures varies from one sector to another, and has changed over the course of the Plans. It is difficult to trace these changes even in health with much accuracy because the categories used for accounting for government expenditures in the States and the Centre are not identical to the Plan categories; and in addition, they have changed from Plan to Plan, and in a major revision of accounting procedures in 1972. Nevertheless Table 1 probably gives a reasonable picture of the changing balance between Plan and non-Plan expenditures.

However this picture is complicated by the different sources of funding. In general, there have been three categories of expenditures: those paid for entirely by the Central Government and disbursed by its own agencies; those paid for (in whole or in part) by the Centre but disbursed by State Governments; and those funded and disbursed by the State Governments. To begin with, central funds were disbursed only under very strict conditions, tying the release of funds to specific projects. This procedure was time-consuming and, as Hanson points out, came to replace the process of proper planning. Procedures were liberalised in 1958, though the category of 'centrally sponsored' remained problematic - here the Centre provided the funds but the States were responsible for implementation. In reality some of this Central control was undermined by the ability of State Governments to spend in a different pattern from that proposed by the Planning Commission. There were only weak procedures to police State expenditures, and State Governments were able to recover any Central funds withheld by getting a miscellaneous development loan at the end of the year - a loan which eventually became a grant. Alternatively, States have reclassified some of their own expenditures in order to take advantage of Central funds. Elder, for example, suggests that in U.P. the State government reclassified its malaria workers as 'family-planning-cum-malaria workers' when central aid for malaria workers in 'maintenance' areas was withdrawn in the late 1960's (Elder 1974:324). In family planning, totally funded by the Centre but implemented by the States, the desire of the Central Government to keep an eye on State activities has led to the creation of Regional offices in State capitals.

The ability of the Centre to offer to pay for a particular part of public expenditure has remained a powerful inducement for State governments to follow Central policy proposals, and any attempt to reclassify a particular topic from Central to State funding is always greeted by howls of protest. But the offer of Central funding is not necessarily enough to ensure that a policy

is followed. For example, in the implementation of the community health workers schemes under the Janata Government after 1977, several States (notably Tamil Nadu, Kerala and Kashmir) refused to introduce the scheme, arguing that they had no need of it because they had alternative ways of meeting the health needs of the rural population. State Governments are also wary of the conditional, time-bound support offered by the Central Government. When Central funding runs out the States will be left with a cadre of workers they did not necessarily want, but they would have no politically acceptable way to sack them. As early as 1980 there were indeed moves to transfer some of the costs of the Community Health Workers scheme onto State budgets. The Central Government was not able to enforce its policy on the States in this case, despite bringing political pressure to bear. Similarly, the Centre is unable to prevent some policy initiatives by State governments which contradict Central policy if the State is prepared to pay for them - as in the recent opening of short courses for training rural doctors in West Bengal, or the opening of a new postgraduate teaching hospital outside Lucknow.

Thus the Centre is able to overcome only some of the consitutional restrictions on its making policy, in 'State' spheres such as health, through the offer of Central funding. Family planning has always been a completely centrally-funded area, as were the campaigns against communicable diseases until the Fifth Plan. On the other hand, nutrition and water supply and sanitation have always been largely State funded. The pattern of 'outlays' (proposed expenditures) by these categories has changed from Plan to Plan; in the health sector (excluding family planning and water supply and sanitation) the role of the Centre generally, if erratically, increased since the Third Plan (see Table 2).

TABLE 2
HEALTH OUTLAYS BY FINANCIAL CATEGORIES

	Third Plan	Plan Holiday	Fourth Plan	Fifth Plan	Sixth Plan
			Rs Millions		
Central	148	168	535	758	4,325
(%)	(6.6)	(12.0)	(12.3)	(9.5)	(23.8)
Centrally Sponsored	55	111	1,765	1,770	3,638
(%)	(2.4)	(7.9)	(40.7)	(22.2)	(20.0)
State/Union Territory	2,056	1,122	2,035	5,432	10,247
(%)	(91.0)	(80.1)	(46.9)	(68.2)	(56.3)
Total	2,259	1,401	4,335	7,960	18,210

Source: G.O.I. 1973 Vol. 2:232; G.O.I. 1981b:382.
N.B. This table excludes family planning (100% Central or Centrally Sponsored in each Plan) and water supply and sanitation.

Unfortunately the pattern of actual expenditures probably differs from the distribution of outlays, and data on this is not readily available. As Barnett points out, during the course of the Fifth Plan, the sectors which were Centrally funded were allocated far more than the other categories, so that in the 1976/7 Annual Plan the State share had dropped to 54%.(Barnett 1977:8). This pattern of allocations has been repeated in the Sixth Plan, as it was eventually adopted under Congress, but detail on actual expenditures by financial category remains elusive. In general terms, the evidence does support the argument that Central dominance in health planning has increased, especially since 1965.

THE PROCESS OF HEALTH PLANNING

There are three kinds of information available on how health planning has taken place within the Government apparatus, none of them ideally suited to the task at hand. The first are the Plans themselves. They have the advantage that they represent official

statements of policy objectives and some of the rationales for chosen policies. They are readily available, and have provided most commentators with much of their material (e.g. Ramanabha, 1984). Their main disadvantages are that they are silent about the processes by which these policies were chosen from amongst competing possibilities being discussed at the time; they say virtually nothing about how priorities led to the actual distribution of allocations; and they offer relatively little information, even retrospectively, about what actual expenditures or their impacts were.

The second source of information is the minutes of the discussions in the Central Council of Health on the Plan proposals. For the Third and Fourth Plans in particular they allow a glimpse into the processes by which proposals from the Ministries of Health are modified in negotiation with the Planning Commission. The disadvantage is that they are by no means complete - similar material is not apparently available for the Fifth and Sixth Plans.

The third source of material is the background papers prepared for the Planning Commission by working groups; I have been able to consult only some of these for the Fifth Plan. While these reports allow more insight into the kinds of arguments and claims being made by different sectors in health, they say very little about how these competing claims were balanced.

These three sources still leave unanswered what impact these expenditures had on health status (perhaps a Utopian request) but also on some aspects of health personnel (especially nursing and other paramedical personnel) and other parts of the health infrastructure. The rest of this section, then, will attempt to demonstrate why the formal claims of the Plans - to be moving towards a rural-based health service, making full use of para- and non-medical personnel to provide preventive and public health services as a priority - have had such limited and uneven

implementation. It must be remembered that non-Plan expenditures, in fields like medical education and medical provision in particular, far outweigh Plan expenditures in those categories.

The formal claims of the priority to be accorded to rural, preventive health care using lower-level personnel appear in all the Plan documents, with greater or lesser force. All the Plans call for a rural bias: rural areas 'should receive much greater attention' (G.O.I. 1952:197); they are 'the most urgent need to be met in the second five year plan'(G.O.I. 1956:534); the expansion will reach 'progressively larger number of persons, specially in the rural areas' (G.O.I. 1961:653); rural areas will be the 'emphasis' (G.O.I. 1968b:309) or the 'accent' (G.O.I. 1973:234). Similarly the preventive bias was urged: in the First Plan 'additional resources should be concentrated on preventive work rather than curative facilities' (G.O.I. 1952:197); in the Third Plan they were to receive 'increased emphasis' (G.O.I. 1961:651) and in the Fifth minimum public health facilities were the 'primary objective' (G.O,I. 1973:234). The expanded numbers of paramedical or non-medical personnel received a more muted and changing emphasis: early proposals saw their rapid expansion as 'necessary', and the Second Plan was most forthright about the need for 'accelerated and sustained action' on ancillary training if 'even elementary services are to reach the mass of the people in any adequate degree' (G.O.I. 1956:538). But the Third Plan merely 'recommended' a new scheme for medical assistants, the Fourth Plan talked only of doctors and the Fifth Plan of raising the quality of training, career paths and so on. As we shall see in Chapter 9, the Community Health Worker scheme was introduced outside the normal process of Plan construction.

TABLE 3

PLANNED OUTLAYS IN THE HEALTH SECTOR

	First Plan	Second Plan	Third Plan	Fourth Plan	Fifth Plan	Sixth Plan
HEALTH:						
Control of communicable diseases	16.5%	28.4%	20.6%	11.0%	6.2%	7.5%
Medical Education and Research	15.4%	13.3%	16.4%	7.4%	3.5%	8.3%[1]
Training		2.7%		1.1%	0.6%	
Hospitals and dispensaries	17.9%	16.0%	18.1%	14.3%	16.3%	10.3%[2]
Indigenous systems of medicine	0.3%	1.8%	2.9%	1.4%	1.0%	
Other programmes	14.4%	2.7%	3.3%	2.4%	1.5%	
TOTAL HEALTH:	64.5%	64.9%	61.3%	37.5%	29.1%	26.0%
FAMILY PLANNING:	0.5%	1.3%	7.9%	27.3%	18.8%	14.4%
NUTRITION:	-	-	n.a.	n.a.	14.8%	3.4%
WATER SUPPLY AND SANITATION:	35.0%	33.8%	30.8%	35.2%	37.3%	56.1%
TOTAL HEALTH-RELATED (RS MILLIONS)	(1,400)	(2,250)	(3,415)	(11,555)	(27,376)	(69,910)

Sources: Plan documents. Nutrition was not separated from health programmes in the Third and Fourth Plans but was retrospectively identified (in the Fifth Plan Draft Outline) as having been allocated Rs 594 million (5% of the health related budget) in the Fourth Plan, of which Rs 370 millions was spent.

1. This figure is for 'Minimum Needs Programme for Rural Health'.
2. This figure is for 'Hospitals and dispensaries, medical education and research, traditional systems of medicine and homoeopathy, and other'.

To some extent, these formal commitments are borne out by the planned outlays contained in the Plan proposals, as can be seen from Table 3, and the evidence on actual expenditures, collated in Table 4. However, the major trend discernible in planned outlays is the declining allocation to the control of communicable diseases (of which malaria took the lion's share) after the Second Plan and the concomitant rise in planned outlays for family planning. To some extent the shift to family planning is misleading, in that the family planning budget has paid for infrastructure and staff at the primary health centre level, and family planning workers are also increasingly expected to carry out tasks in maternal and child health. However, the simple conclusion is correct: these trends represent a reduction in the commitment to controlling disease and an increased commitment to controlling the numbers of people - made particularly clear in the Emergency of 1975-77.

One other notable feature of Table 3 is the small allocation of Plan funds to the indigenous systems of medicine. There is something of a rising trend until the Third Plan, and a decline since then. The decline is partly because of the rising significance of nutrition, family planning, and water supply, in which the indigenous systems play no part. But the indigenous systems have also received a declining share of Plan allocations within the narrower 'health' category. Very little detailed information is available on how this money is allocated and spent, nor on the patterns of non-Plan expenditures. Since the expenditures on the indigenous systems form such a small part of the overall total I shall not consider it in more detail here. However, I will return to this subject in Chapter 7.

TABLE 4

OUTLAY AND ACTUAL PLAN EXPENDITURES

		First Plan	Second Plan	Third Plan	Annual Plans	Fourth Plan	Fifth Plan
		Rs millions					
HEALTH	Outlay	903	1,460	2,093	n.a.	4,333	6,820
	Actual	652	1,408	2,259	1,402	3,355	7,608
	[Deflated]			[1,920]	[1,402]	[2,720]	[5,960]
(A as % of O)		(72%)	(96%)	(108%)	(n.a.)	(78%)	(112%)
[Deflated A as % of O]				[92%]	[n.a.]	[63%]	[87%]
FAMILY PLANNING:							
	Outlay	7	29	270	n.a.	3,155	4,970
	Actual	2	22	249	704	2,779	4,918
	[Deflated]			[198]	[704]	[2,602]	[3,824]
(A as % of O)		(29%)	(73%)	(92%)	(n.a.)	(88%)	(99%)
[Deflated A as % of O]				[73%]	[n.a.]	[82%]	[77%]
WATER SUPPLY AND SANITATION:	Outlay	490	760	1,052	n.a.	4,067	9,710
	Actual	326	733	1,057	1,027	4,589	10,916
	[Deflated]			[870]	[1,027]	[3,805]	[8,628]
(A as % of O)		(67%)	(96%)	(100%)	(n.a.)	(113%)	(112%)
[Deflated A as % of O]				[83%]	[n.a.]	[94%]	[89%]
TOTAL HEALTH-RELATED:	Outlay	1,400	2,250	3,415	n.a.	11,555	21,500
	Actual	980	2,163	3,565	3,133	10,761	23,442
	[Deflated]			[2,988]	[n.a.]	[9,127]	[18,412]
(A as % of O)		(70%)	(96%)	(104%)	(n.a.)	(93%)	(109%)
[Deflated A as % of O]				[87%]	[n.a.]	[79%]	[86%]

Sources: Plan documents; G.O.I. 1975, 1978a, & 1983.
Note: Fifth Plan figures exclude nutrition.
'Deflated' rows refer to Actual expenditures (A) expressed in the prices ruling at the time the respective Plan document was issued, i.e. in Outlay (O) prices (1950/51 for the First Plan, 1955/6 for the Second, 1960/1 for the Third, 1968/9 for the Fourth and 1973/74 for the Fifth). The all-India wholesale prices index has been used as a deflator.

There are several complications in interpreting these figures as indicators of the priorities of the various layers of Government. A major difficulty arises from the differential impact of inflation. This becomes increasingly important after 1963, when relative price stability gave way to steady increases in prices. This means that the apparent ability to meet spending allocations which is noticeable for the Third, Fourth, and Fifth Plans is probably misleading, since the Plan documents are based on prices ruling when the Plan was drawn up, whereas the expenditure figures are in current Rupees. The 'deflated' rows in Table 4 are an attempt to indicate the impact of inflation, though it is not clear whether the wholesale prices index is an adequate deflator. An additional complication with the Fifth Plan is that the Janata Government produced its Sixth Plan to start before the original Fifth Plan period was completed, and the Congress Government which was elected in 1979 retracted the Janata Plan and replaced it with its own, starting at the end of the old Fifth Plan period.

In some respects, it makes more sense to compare health-related expenditure with other parts of the Plan. In general, the health sectors have been less successful at spending their allocations than have either the social services (education being a major component) or the public sector of the Plan as a whole. Another way of looking at the importance given to the health sectors is to compare their percentage allocations in each Plan: as can be seen from Table 5, while the share of outlay declined over the course of the first three Plans it rose in the Fourth (largely because of the boost to family planning outlays) and maintained this level in the Fifth (affected by the allocation to nutrition). Actual shares have been below this. It should also be remembered that Table 1 showed that Plan expenditures on health-related subjects have barely kept up either with the growing population or the increases in prices since the end of the Third Plan.

TABLE 5

HEALTH-RELATED PLAN OUTLAYS AND EXPENDITURES

(as %age of total public sector Plan)

	First Plan	Second Plan	Third Plan	Annual Plans	Fourth Plan	Fifth Plan	1979-80	Sixth Plan
OUTLAY:								
HEALTH	3.6	3.3	2.8	-	2.7	1.7	-	1.8
FAMILY PLANNING	0.03	0.07	0.4	-	2.0	1.3	-	1.0
NUTRITION	-	-	-	-	-	1.0	-	0.2
WATER SUPPLY etc	2.0	1.7	1.4	-	2.6	2.5	-	4.0
ALL HEALTH-RELATED	5.6	5.0	4.6	n.a.	7.3	6.5	n.a.	7.1
EXPENDITURE:								
HEALTH	3.3	3.0	2.6	2.1	2.1	1.9	1.8	n.a.
FAMILY PLANNING	0.01	0.05	0.3	1.1	1.8	1.3	1.0	n.a.
NUTRITION	-	-	-	-	0.0	n.a.	n.a.	n.a.
WATER SUPPLY etc	1.7	1.6	1.2	1.6	2.9	2.8	3.2	n.a.
ALL HEALTH-RELATED	5.0	4.6	4.2	4.7	6.9	5.9	6.0	n.a.

Sources: Plan documents; G.O.I.(1983:113)

THE PROCESS OF HEALTH PLANNING

The final set of information about the planning process comes from more detailed sources on the Third and Fourth Plans. These come largely from the special sessions of the Central Council of Health which discussed the Plan as it related to health, and for these two Plans, also displayed some of the steps in drawing up the Plan and allow for a comparison between the distributions of expenditure proposed by different sections of the health planning procedure - largely the Central Ministry of Health and Family Planning/Welfare on the one hand and the Planning Commission on the other - and the pattern of expenditure which actually took place.

In general the procedure of detailed planning appears to be as follows. Firstly there are discussions in which State Ministries liaise with Central Ministries over proposals and projects which are put to the Planning Commission. The Planning Commission collates these proposals and evaluates them in terms of a number of criteria - such as the foreign exchange requirements which are implied, the overall volume of physical and financial resources which is expected to be available, and other decisions on priorities between sectors and States. These major decisions are formally the responsibility of the National Development Council, consisting of members of the Planning Commission and chief ministers of the States, and usually chaired by the Prime Minister. The Planning Commission then translates these essentially political decisions into consistent policies which form the final Plan, and then draw up annual plans which provide the justification for State and Central Ministry budget decision-making, and allow State governments to claim back expenditures which fall within Plan allocations.

In the case of health, the first stage appears to include the establishment of working parties and expert groups (dominated by doctors) looking at specific issues such as medical education or the control of communicable diseases. Each group works independently, and is thus tempted to expand the number of its proposals as far as possible. Similarly, the Ministry of Health as a whole is under pressure to submit an exaggerated list of proposals to the Planning Commission, knowing that it is likely to have its total cut, whatever is proposed. The eventual Plan may lose much of whatever rationality it had, because of the need to cut the total to a level acceptable to the Planning Commission, and to divide it into topics and by State in ways which derive from political decisions made in the National Development Council. Looking at these processes, then, gives some idea of the 'real' priorities - which parts of the Health Ministry's proposals are cut and which aspects of allocations are turned into expenditures over the following five years.

During the course of the Second Plan the Central Health Ministry looked at the pattern of expenditures and singled out medical education and family planning as areas where allocations were not being spent fast enough. This kind of information was fed into discussions on the Third Plan allocations. State Working Groups were established, who submitted proposals to a Central Working Group, which reported to the Central Council of Health in 1959. Their proposals form column A in Table 7 below. At the same time the Planning Commission was preparing its own Draft Outline, which appeared in June 1960 (column B) and allocated only 43% of the C.C.H. proposals. This Draft Outline was then discussed with the States and the Central Ministries, and the size of the Plan was increased as a result of political pressures of this kind, beyond what many members of the Planning Commission felt was reasonable. Two revised sets of proposals came out of this process (columns C and D) before the Plan was finalised and appeared in August 1961 (column E). The pattern of actual expenditures is shown in column F.

A similar sequence of events can be identified for the Fourth Plan, though matters are complicated by the fact that the original proposals for the Fourth Plan were shelved in 1966 and reviewed only in 1968-9, because the Fourth Plan period was put back by three years. Discussions began before the end of the Third Plan period, in order to draw some conclusions from the pattern of progress. Working groups, established by the Ministry of Health in 1963, laid out a set of priorities. They were: to remove shortages of trained manpower and materials; to reduce the birth rate; to supply safe water, drainage and sanitation to cities and to scarcity rural areas; to promote integrated and adequate health facilities and to narrow down inequalities; and to expand services as far as possible to the entire population, concentrating on domiciliary and preventive services (G.O.I.[C.C.H.] 1965:21).

Once again, the simple process of adding up all the schemes which the Health Ministry thought 'desirable' generated a figure (Rs 27,280 million) far above that which the Planning Commission were prepared to accept. The Planning Commission's figure (Rs 10,900) was divided as in column A of Table 8. (I have been unable to discover the distribution of the Ministry of Health's proposal.) The next two rounds of proposals (in September 1965 and October 1966) produced similar distributions of a smaller total (Rs 9,600 million); the latter appears as column B of Table 8. The process restarted in 1969, in a much more restrained context. The Health section of the Ministry re-established a working group and sub-groups. The sub-group proposals called for Rs 5,756 millions (excluding family planning, water supply etc.) which the working group reduced to Rs 5,125 millions. The Planning Commission cut the total to Rs 4,370 million and this figure was cut again to Rs 4,340 by the time the final Plan was agreed and published in 1970 (column C). Taking the health-related sector overall, the discussions led to a slightly larger total allocation (Rs 11,420 million). The actual pattern of expenditures during the Fourth Plan appears as column D.

TABLE 6

ALLOCATIONS AND EXPENDITURES FOR THE THIRD PLAN

	A M of H 1959		B P Comm 1960		C Negotiations 1960		D 1961		E Outlay 1961		F Actual 1961-66	
	Rs Mn	%	Rs Mn	%	Rs Mn	%	Rs Mn	%	Rs Mn	%	Rs Mn	%
HEALTH:												
Control of communicable diseases	1200	17	920	30	840	26	690	20	705	21	971	28
Medical education training & research	750	11	460	15	390	12	570	17	560	16	668	19
Hospitals and dispensaries	1370	20	460	15	500	15	630	18	617	18	495	14
Other health	910	13	300	10	170	5	230	7	210	6	124	4
FAMILY PLANNING:	300	4	250	8	90	3	300	9	270	8	228	7
WATER SUPPLY & SANITATION:												
Urban	2000	28	630	21	1240	38	890	26	1053	31	1045	30
Rural	500	7	20	1	40	1	120	4				
TOTAL	7030	100	3040	100	3270	100	3440	100	3415	100	3531	100

Source: For columns A-D: G.O.I.(C.C.H.) 1961; for column E G.O.I. 1961:651; for column F, G.O.I.(C.C.H.) 1966:45.
Key: M of H= Ministry of Health; P Comm= Planning Commission.

TABLE 7

ALLOCATIONS AND EXPENDITURES IN THE FOURTH PLAN

	A P Comm 1965 Rs mill	%	B P Comm 1965 Rs mill	%	C Outlay 1969-74 Rs mill	%	D Actual 1969-74 Rs mill	%
HEALTH:								
Control of communicable diseases	1,250	12	870	9	1,270	11	993	9
Education, training and research	2,250	21	1,780	19	980	9	860	8
Hospitals & dispensaries	2,500	23	1,810	19	890	8	827	8
Primary Health centres					760	7	343	3
Other health	550	5	460	5	440	4	437	4
TOTAL HEALTH:	6,550	60	4,920	51	4,340	38	3,460	32
FAMILY PLANNING:	950	9	950	10	3,150	28	2,779	25
WATER SUPPLY AND SANITATION:								
Urban	1,450							
Rural	1,950	31	3,730	39	3,920	34	4,738	43
TOTAL HEALTH-RELATED	10,900	100	9,600	100	11,420	100	10,977	100

Sources: G.O.I. (C.C.H.) 1965 & 1969; G.O.I. 1964, 1970, & 1973.
Note: This table excludes nutrition, and differs from the figures in Table 4, which were revised in the light of later information but are not available in a disaggregated form.
Key: P Comm= Planning Commission

In the course of these changes there were some apparently radical changes in distribution, with heavy cuts to education, training and research, and in hospitals, dispensaries and health centres being handed over to family planning and to water supply and sanitation. This appearance is slightly misleading, since the total for family planning includes some expenditures directly relevant to the health sector - as in the training of Auxiliary Nurse-Midwives, some of whom worked in 'health' or 'medical' positions. Provision for the training of these personnel might originally have appeared under the State total for Training, but a reclassification under a Centrally-sponsored heading such as family planning would increase the chances of implementation. Some changes, then, might be little more than cosmetic.

Nonetheless, once again a detailed look at the process of planning suggests the difficulty of sustaining the simple criticism that the Government has not been concerned with preventive, rural-based services. Although these services obviously have quite a low priority within the State Ministries, and even perhaps within the Central Health Ministry, the Planning Commission priorities seem fairly clear-cut. Wherever possible, the Planning Commission in both the Third and Fourth Plan discussions emphasised preventive and public health programmes at the expense of medical education or hospitals and dispensaries. However, since the Planning Commission can only restrain expenditures by State Governments (rather than being able to insist on spending) the actual patterns of expenditure in each case are different again. In the case of the Third Plan (Table 7) the over-riding factor seems to have been the need to increase expenditure on the malaria programme, which probably accounts for most of the extra expenditure under this heading. In the Fourth Plan (Table 8) declining Central control is indicated by the under-spending on communicable diseases and on Primary Health Centres, compared to hospitals and medical education and research. (Training, i.e. of paramedical workers, also suffered.) This is slightly obscured in Tables 7 and 8 in the percentage

distributions, because of the inclusion of water supply and sanitation, often the responsibility of a different Ministry, and usually able to spend more than its allocation (see Table 4 above), but is more clearly evident if the actual cash expenditures are compared with outlay figures. However, since these are in current prices, and there are no estimates of any differential impact inflation may have had, it is impossible to distinguish 'price' from 'real' changes.

A further way of looking at the changes in health priorities is to take an individual State and see how its health expenditures have changed through time. Unfortunately there are no good sources available for such an analysis. The Reserve Bank of India publishes a breakdown of public sector expenditures which is restricted to a division between major budget headings - Medical, Public Health and so on. This shows a considerable, fairly stable, spread of per capita expenditures for the different States, ranging from very high figures in the mountainous northern States and Union Territories (Nagaland, Himachal, and Jammu and Kashmir) to very low figures in the Ganges plain (Bihar and Uttar Pradesh). (See Table 8). This pattern does not only reflect differences in the priority given to health and other social services expenditure (e.g. the relatively high figures for Kerala, a relatively poor State). It also reflects the way in which States get access to financial resources, partly from their own tax base but also in different ways from the Central Government. As George and Gulati (1985:292) show, 'low income' States like U.P. and Bihar have not received Central funds sufficient to outweigh their poverty, but the 'special category' States (basically the hilly ones on strategic borders, like Himachal Pradesh, Jammu & Kashmir, Tripura etc.) have received per capita payments between 2.25 and (in the case of Nagaland) 9.5 times the national average.

TABLE 8

PER CAPITA REVENUE EXPENDITURE ON MEDICAL, FAMILY PLANNING AND PUBLIC HEALTH SUBJECTS FOR MAIN STATES

	Current Prices		1970/71 Prices	
	1972/3 to 1974/5	1975/6 to 1976/7	1972/3 to 1974/5	1975/6 to 1976/7
A: High Income States				
Punjab	11.9	16.8	8.4	9.6
Haryana	9.7	11.8	6.9	6.7
Maharashtra	11.5	13.1	8.1	7.5
Gujarat	9.2	11.6	6.7	6.6
West Bengal	8.4	12.8	5.9	7.3
GROUP A	**10.0**	**13.0**	**7.1**	**7.4**
B: Middle Income States				
Tamil Nadu	9.4	12.6	6.7	7.2
Kerala	10.1	14.8	7.1	8.4
Orissa	6.6	9.0	4.7	5.2
Assam	7.6	9.4	5.3	5.4
Karnataka	7.5	11.4	5.2	6.5
Andhra Pradesh	6.8	9.7	4.8	5.6
GROUP B	**8.0**	**11.2**	**5.7**	**6.4**
C: Low Income States				
Uttar Pradesh	4.7	5.5	3.3	3.1
Rajasthan	10.9	13.8	7.8	7.9
Madhya Pradesh	7.3	8.3	5.1	4.7
Bihar	4.1	4.5	2.9	2.6
GROUP C	**5.8**	**6.8**	**4.1**	**3.9**
D: Special Category States				
Himachal Pradesh	15.8	19.8	11.2	11.3
Jammu & Kashmir	14.4	17.0*	10.1	9.8*
Manipur	13.3	15.1	9.3	8.6
Meghalaya	19.0	23.9	13.6	13.6
Nagaland	59.2	76.4	40.6	43.6
Tripura	10.9	13.7	7.8	7.8
GROUP D	**16.4**	**20.2**	**11.7**	**11.5**
Average of listed States	7.9	10.2	5.6	5.8

Source: For 1973/4 to 1976/7: G.O.I. 1979:23; for 1972/3, Barnett (1979:16)
Note: The categorisation of States is taken from George & Gulati (1985) and group per capita figures are weighted averages using 1971 census weightings. The expenditure figures have been deflated by the wholesale prices index to give 1970/71 prices. The system of classifying budget data changes between 1973/4 and 1974/5, introducing an unquantifiable element of uncertainty into these figures, which should be reduced by taking a three-year average.
* Figures for Jammu and Kashmir are only available for 1972/3 to 1975/6.

Barnett attempted to move beyond these gross figures of health expenditure to look at how health budgets and actual expenditures in the States were distributed amongst more meaningful categories, but he was able to gather material on only a few States, mostly for budget estimates not expenditures, and only for a few years (Barnett 1977). Tables 9-11 present data from one State - Orissa - for a restricted number of years, 1971-2 to 1978-9, using the annual administration reports for the Health Ministry. These are not apparently available before 1971-2, they appear several years in arrears, and they are no longer being published (G.O.O.[H.& F.W.D.]).

In the absence of reliable national figures it is difficult to assess how typical Orissa is. As Table 8 shows, only U.P., Assam and Bihar had lower per capita public expenditure on medical and public health categories. This reflects the poverty of Orissa: most indicators of State Domestic Product place it as one of the four poorest States (see, e.g. Panikar, 1980; Tata 1982). (It appears in Table 8 as 'middle income', mainly because of the potential tax base provided by its large industrial sector). On the other hand, Panikar quotes 1965 figures which show that it has one of the most rural distributions of hospitals and hospital beds of all States (only Kerala and West Bengal have more rural hospital beds). I have drawn on Barnett's analysis to make what comparisons are possible between States on the distribution of expenditure. Table 9 summarises the main data for Orissa. One problem with Orissa's data is that the source gives no figures for indigenous medicine, included (for example) in Barnett's figures for Maharashtra.

TABLE 9

HEALTH-RELATED EXPENDITURES FOR ORISSA STATE, 1972-1979

(ANNUAL AVERAGES IN RS MILLIONS)

	1972/3 to 1974/5			1975/6 and 1976/7			1977/8 and 1978/9		
	Non-Plan	Plan	**Total**	Non-Plan	Plan	**Total**	Non-Plan	Plan	**Total**
Medical Education:									
Undergraduate	8.2	2.0	**10.2**	12.5	0.4	**12.9**	12.8	0.6	**13.4**
Post-graduate	1.2	0.1	**1.3**	1.9	0.0	**1.9**	1.9	0.0	**1.9**
Paramedl. training	1.1	0.9	**2.0**	1.3	0.2	**1.5**	1.5	0.3	**1.8**
Medical relief	56.8	9.5	**66.3**	93.9	9.6	**103.5**	102.5	19.3	**121.8**
Prevention/control of disease	5.1	16.9	**22.0**	9.7	23.7	**33.4**	11.6	23.0	**34.6**
Public health, sanitation and water supply*	7.0	0.3	**7.3**	11.0	0.0	**11.0**	13.0	0.0	**13.0**
Family Planning:									
Compensation	-	3.0	**3.0**	-	21.1	**21.1**	-	11.8	**11.8**
Paramed training	-	0.8	**0.8**	-	0.7	**0.7**	-	5.0	**5.0**
Other	-	17.9	**17.9**	-	25.8	**25.8**	-	29.4	**29.4**
TOTAL	79.5	50.2	**129.7**	130.3	81.5	**211.8**	143.3	89.4	**232.7**
(COLUMN %)	(61.3)	(38.7)	(100)	(61.5)	(38.5)	(100)	(61.6)	(38.4)	(100)

Sources: G.O.O.(H.& F.W.D.) for the relevant years.
Note: Administration expenses for the medical directorate are included in the total for medical relief; for family planning in 'other'; and for the public health directorate in public health, sanitation and water supply.
* Most expenditure under this sub-heading is carried out by different departments and so does not appear in these sources.

There are several points with respect to Table 9. Firstly, expenditure on paramedical training is divided between that which appears under the Medical budget, and is paid for by the State Government, and that under Family Planning, paid for by the Central Government. Not all of the latter is actually in family planning, since the Central Government contributes to the training of nurses and to retraining under the multi-purpose worker scheme after 1977, but I have kept these two categories distinct. Secondly, some other distinctions relate to budgetary categories which might be much less distinct on the ground, as for example in the separation of expenditure on medical college hospitals (in the medical relief category) from the expenditure on the medical colleges themselves (under medical education). Thirdly, there are other departments in Orissa which undertake most public health engineering works (water supply, sanitation) and I have been unable to collect comparable data on their expenditure, so this total is an understatement of Orissa Government expenditure under this heading. This makes inter-State comparisons very difficult. As Table 11 demonstrates, Barnett's data on Maharashtra show very different distributions for 1972-5, because there the Health Department includes such expenditure, totalling nearly 30% of all health-related State expenditure (Barnett, 1977).

It is difficult to disaggregate these data much further, so only relatively simple conclusions can be drawn from these tabulations. Three points are, however, obvious, especially from a consideration of Tables 9 and 10. Firstly, they show the stability of the distribution of expenditures over this period - not very surprising over a relatively short time. Secondly, Table 9 reinforces the message of Table 2 above, that the role of Plan expenditure is particularly crucial in family planning and the prevention of disease (and, not shown in this table, in water supply and sanitation); the distribution of Plan expenditures is thus a poor guide to the distribution of total expenditures.

TABLE 10

DISTRIBUTION OF HEALTH-RELATED EXPENDITURE BY MAJOR CATEGORIES

	ORISSA			MAHARASHTRA
	1972/3 to 1974/5 %AGES	1975/6 and 1976/7 %AGES	1977/8 and 1978/9 %AGES	1972/3 to 1974/5 %AGES
MEDICAL EDUCATION:				
Undergraduate	7.9	6.1	5.8	}
Postgraduate	1.0	0.9	0.8	} 6
PARAMEDICAL TRAINING	1.5	0.7	0.8	}
MEDICAL RELIEF	51.1	48.9	52.3	25
PREVENTION/CONTROL OF DISEASE	17.0	15.8	14.9	14
PUBLIC HEALTH, SANITATION AND WATER SUPPLY	5.6	5.2	5.6	28
FAMILY PLANNING:				
Compensation	2.3	10.0	5.1	5
Paramedical training	0.6	0.3	2.1	}
Other	13.8	12.2	12.6	} 9
EMPLOYEES STATE INSURANCE SCHEME				13
TOTAL	(100)	(100)	(100)	(100)

Sources: For Orissa, as Table 9; for Maharashtra, Barnett (1977).

TABLE 11

DISTRIBUTION OF EXPENDITURES BY LEVEL OF CARE, ORISSA 1972/3 TO 1978/9

[Annual averages in Rs millions]

Category	1972/3 to 1974/5	1975/6 and 1976/7	1977/8 and 1978/9
ADMINISTRATION			
Medical	3.0	4.2	4.0
Family Welfare	2.4	2.8	3.0
Public health	5.8	9.1	10.2
Laboratory, statistics and vaccine supplies etc	1.3	3.3	2.6
TOTAL	12.4 (9.4%)	19.4 (8.9%)	19.8 (8.5%)
TERTIARY CARE			
Medical colleges:			
Education	11.4	14.9	15.3
Medical relief	16.3	22.6	24.6
TOTAL	27.7(21.1%)	37.5 (17.2%)	39.9 (17.1%)
SECONDARY CARE			
Hospitals, dispensaries	25.1	43.8	49.3
Paramedical training	1.9	3.8	6.8
TOTAL	27.0(20.5%)	47.6 (21.8%)	56.1 (24.8%)
PRIMARY CARE			
P.H.C.s etc	24.8	36.0	40.4
Family welfare:			
Services	14.2	25.8	26.1
Compensation	3.0	17.5	11.8
Disease control:			
Malaria	12.6	17.5	17.8
Leprosy	3.6	7.0	9.1
Other	5.8	9.6	10.3
Health education	0.3	0.5	0.5
TOTAL	64.3(48.9%)	113.9 (52.2%)	116.0 (49.8%)
GRAND TOTAL	131.5	211.8	232.7

Sources: as for Table 9.

Thirdly, Table 10 gives some idea of the significance of compensation for sterilisation operations, which rose from 2% of the total health-related expenditure in the early 1970's (in both Orissa and Maharashtra) to 10% in the two years of the Emergency, and is still running at over 5% of the total in 1977/8 and 1978/79, 'poor' years for sterilisations. Indeed, of the apparent increase in per capita 'real' (1970/71 prices) Health Department expenditures in the Emergency over the preceding years over 25% can be explained purely as the increase in compensation payments.

Finally, it is also possible to recategorise expenditure by whether it is essentially intended to provide 'primary', 'secondary' or 'tertiary' care. In brief, primary care is designed to meet the major common health problems of the population, whether curative, promotive, rehabilitative or preventive in focus; secondary care provides more specialised services, usually after some referral from a primary facility; and tertiary services are the most specialised and least accessible.

There are problems with this analysis: most discussions of the categories are not conceptually clear-cut (see, for example, Cole-King 1976). It is particularly difficult to allocate expenditures on education and training, which may produce staff who are to work in all three sectors. In addition, a facility like a medical college hospital, which is nominally designed to provide highly specialised referral services may actually provide primary care services to the surrounding population. A further problem is that expenditures nominally in one category might more reasonably be located in another, as in cases where staff are paid from one budget head (say, Primary Health Centres) but are on secondment elsewhere (say, in a medical college). In general, I assume that this will not involve large sums, and that accounting controls are sufficiently tight to ensure that most money is spent in the category to which it is allocated. Table 11 summarises Orissa Health and Family Welfare Department

expenditures for 1972/3 to 1978/9 using this categorisation, but ignoring the distinction between Non-Plan, State Plan and Centrally Sponsored Plan expenditures in each case.

In terms of the discussion with which I started this chapter, it would seem that some caution is necessary in concluding straightforwardly (as Cassen does) that public expenditures in health are concentrated on big urban hospitals - though since 'large' is undefined, there is room for some dispute on this. The actual total to be regarded as 'true' primary care is also disputable: many would argue that family planning (in the Indian context at least) is too coercive to be regarded as 'health care', and even those favourably inclined towards family planning might acknowledge the dubious status of compensation payments. Nevertheless, in an international context, these figures seem to show that Orissan health expenditures are less heavily biassed in the 'wrong' directions than might have been predicted.

CONCLUSION

This chapter has been concerned with patterns of expenditure and the administrative processes through which they arise. Several conclusions which can be drawn from this analysis.

Firstly, in health planning it has been the Planning Commission which has championed the preventive, public health aspects of health expenditures. In both the 3rd and the 4th Plans, the Health Ministry proposals would have given far more weight to medical education (especially post-graduate education): this would have had implications also for medical relief (through the extra resources going to medical college hospitals), but the Planning Commission radically altered the balance of Plan proposed expenditures towards primary care. Why the Planning Commission played this role is not immediately obvious, though I would speculate that medical personnel have been dominant in policy proposals within the Health Ministry but have had to contend with more powerful economists and administrators when the negotiations have been outside their own direct sphere of influence. There is, also, as we shall see in chapter 8, the part played by foreign sources of advice, backed up with assistance, in reinforcing the pressures for preventive, single-disease control programmes which were so significant in the 1960's.

Secondly, the balance between major categories of health expenditure has shifted dramatically towards family planning. This has happened partly because family planning spending has been a channel under the closer control of the Central Ministry of Health than other aspects of health expenditure, and partly because of the ideological commitment to population control. The shift is most marked (somewhat misleadingly so) in Plan expenditures, and some parts of the family planning budget have a rather ambiguous status (e.g. compensation, and paramedical training). Nonetheless, this shift has been a real one.

Finally, as we have seen in the case of Orissa, the total share of the State budget going to health-related issues seems to have declined steadily over the course of the 1970's. Nonetheless, the distribution of health expenditure between functional categories has remained remarkably solid, with at least 40% in primary care, and on some definitions, nearer 50%. In addition, the evidence about expenditures on indigenous medicine (both under Plan and non-Plan budget categories) suggests that this has remained very low.

However, there are two major caveats to the picture presented in this chapter. The first is that figures for health expenditures are meaningless without some realistic assessment of what services they bought, and how effective they were. These issues will be addressed in Chapter 9, dealing with health personnel; and Chapter 10, which assembles material on processes in health institutions. The second is that I have so far talked about health policy as if it were a matter solely for Government personnel. In the next two chapters I will look at the wider context of health policy-making, by looking at the politics of medicine in India and the international context.

CHAPTER 7

THE POLITICS OF MEDICINE IN INDIA

So far I have presented medical policy-making in India as if it takes place almost entirely within official circles, or in Alavi's fourth level of the State. In this chapter I want to focus on the messages which this official framework receives from outside - from clients, politicians, and organised pressure groups within India. I shall argue that these messages generally tend to reinforce many of the preferences of those within Health Ministries - in other words, they share a 'doctor-oriented', 'curative-services', view of health problems and solutions. However, there are conflicts, particularly over the role of people practising Western medicine without an Western medical qualification. The conflicts between those who have supported unregistered practitioners and those who regard them only as 'quacks' have been strenuous and remain basically unresolved. I shall use these conflicts as a case study, because these disputes illuminate political processes very clearly.

In general, I shall make two points in the course of this chapter. The first is that health services are not central to class interests in India, either as benefits to be fought over or as important elements in the reproduction of a class-based social structure. The main protagonists have been medical practitioners, who have fought over the share of the cake that they are able to corner, rather than in terms of the role of the public sector or other 'ideological' concerns. The second point is that the Indian Medical Association (I.M.A.), the main representative body of doctors, has not been notably successful in the campaigns that it has waged, either to protect its narrow interests or to influence policy in other ways. In other words, health planning has been relatively impervious to interral pressures. To begin with, I shall discuss the routine pressures from clients and politicians, before looking at 'inter-system

disputes' (between groups of Western and indigenous practitioners) and the role of the I.M.A. and other medical pressure groups.

THE POLITICS OF OFFICE

Those wishing to influence health policy have to contend with the division of powers between the Centre and the States, outlined in the Introduction to Part B and in Chapter 6 above. These institutional forms set a framework for outside political pressures, and I will begin by outlining this framework before turning to discuss some of the forms these take.

The major changes of the immediate post-Independence period were the end of the I.M.S. as an elite corps of medical clinicians-cum-administrators, and the introduction of the Planning Commission, controlling access to most 'additional' funds. The Health Ministries, both Central and State, are still divided (as under the British) into a 'secretariat', headed by members of the Indian Administrative Service (the heirs to the Indian Civil Service) and the 'directorate', headed by doctors but including some nurse administrators. Almost all commentators agree that the secretariat is dominant: it controls access to the Minister, with files passing through it and finance depending on it. Its formal dominance is reinforced by the ability of the 'generalist' administrators to talk as colleagues to the heads of other Ministries in which they may have recently worked, particularly those concerned with financial and planning matters, whereas the doctors are restricted to a career within the one Ministry. The doctors can use their technical skills as a political weapon, either by claiming decisions as technical ones or using their control over medical resources to get political credit directly from politicians. However, every Ministry is made up of three groups in potential conflict: the Minister, with political advisers and supporters; the administrators; and the doctors.

The State Ministries also have to contend with the Central Ministry, which exercises its power largely through persuasion and the control over 'Plan' funding. Persuasion is exercised in a variety of ways, the most public being the annual meetings of the Central Council of Health. The issue of the role of the C.C.H. was raised at the second meeting in 1954, when the Central Minister (Rajkumari Amrit Kaur) complained that the decisions of the first meeting had not been implemented. Several Ministers immediately pointed out that since Health was constitutionally a matter for the States the C.C.H. could not bind its members in any way: all Ministers would need support from their State Cabinets in order to get finance for any proposals, and a new Ministry would be free to change any decisions (G.O.I.[C.C.H.], 1954:item 1). This has been the formal position ever since, and it has rarely been challenged.

The abolition of the I.M.S. has meant that the Central Health Ministry does not have its 'own' men in senior positions in the State Ministries, in the way that the I.A.S. provides a link between Centre and States. Attempts to establish an All-India Health Service, as a replacement to the I.M.S., have been discussed periodically since 1950. The States have generally argued that they would not like to employ doctors who would look to the Central Government for their promotion, since the States would not have full control over their destiny (G.O.I.[C.C.H.] 1952:item 7). Additional problems raised have covered the need to compensate doctors for a loss of private practice facilities, and the difficulty of matching staff to the wide variety of clinical or other posts which they might fill (G.O.I.[C.C.H.], 1973:366-8). No such service has yet been created. As a result, the medical advisers to the Central Government are all drawn from a small Central Health Service. This is recruited to fill positions in the health facilities provided by the Central Government for its own employees or for a few hospitals and medical colleges, mostly in Delhi. The last of the ex-members of the I.M.S. have

now retired, and recent Directors-General of Health Services have thus been taken straight from a senior clinical position (often as a surgeon) with no experience of medical administrative work in the rural areas or small towns.

The other agency attempting to co-ordinate State and Central policies has been the Planning Commission. The Central Health Ministry has been able to operate most effective control where it has been able to offer financial assistance. The constitutional division of responsibilities has largely restricted this to the use of 'Plan' funds as a bait, which has depended on the Health Ministry's ability to persuade funds out of the Planning Commission. State Governments routinely call for innovations to be funded by the Central Government or else they will not take place; and the Central Government is forced to place its priority subjects on the 'Centrally-funded' or 'jointly-funded' list as a result. As Chapter 6 has shown, the Planning Commission has not played a neutral role, since it has refused to fund some proposals from the Central Health Ministry (for example, those concerned with medical auxiliaries in the 1950's, discussed in Chapter 9) or it has offered funding for areas on which the States have not wanted to spend money.

The other tactic used by the Central Government to affect State policies has been to redefine issues which are constitutionally its own, in particular family planning, to include aspects of maternal and child health. These then become eligible for direct Central funding. These various possibilities have formed the substance of much discussion involving the Central and State Ministries and the Planning Commission, not just when a new Plan has been drawn up but also thrcughout the life of a Plan. Changes have been made in the status of projects during a Plan period, and it is thus very difficult to state whether a particular subject has been Centrally- or State-funded.

CLIENTS AND POLITICAL PRESSURE

The clients of medical facilities are not usually well organised to promote a particular point of view about the nature of their medical services, and the Indian case is no exception. 'Patienthood' is usually a short-term, undesired status, and generating an institutional base on the back of this kind of experience is very difficult. Organisation is more likely as a result of the experience of long-term, disabling disorders (blindness, deafness) or by those demanding the encouragement of new forms of treatment which offer a solution to life-threatening disorders (heart surgery, cancer). It is much more difficult to organise client pressure in favour of a particular form of health service structure, or for changing the balance of expenditures or personnel: organisations with this kind of focus are usually dominated by medical personnel themselves, with their interests as employees.

In India, there is also a weakness of all kinds of consumer pressure groups which compounds the general case. Most consumer pressure tends to be sporadic, local, and specific, and to disappear very quickly. Typical examples would be the pressure generated over the siting of a Primary Health Centre. In such cases, politicians can mobilise local support in favour of a decision which will favour one village over another, and sometimes this support can be sustained through an apparently unfavourable decision, using the courts and higher party persuasion. An unknown number of P.H.C.s have been delayed in their construction, or built in the 'wrong' place, as a result. But the ability to maintain pressure to ensure that the P.H.C. is properly funded, or staffed, or organised to make the most use of its limited resources, is way beyond local political resources.

The major medical issues which enter into local political debate are therefore strictly limited ones with some general local appeal. Firstly there are issues which involve the

expenditure of money in one locality rather than another - the building of hospitals, dispensaries, P.H.C.s or sub-centres. That is, given a higher decision about the amount of money to be spent on health matters under different heads, then each State, and each district within the State, and each town and village in the district, will compete for the money to be spent there rather than elsewhere. A politician is known for his comparative skill in such battles, and electorates expect to be rewarded for their loyalty to a successful politician by rewards from the health budget as much as from the education, industry or railway budgets. These kinds of allocative decisions are not restricted to capital expenditures but can also be found in recurrent decisions. Examples would include whether or not to fill vacant posts, to move staff, to supply new equipment, to release funds for drugs, or to redistribute equipment, vehicles, and so on. Those living in a Minister's constituency can expect the major social welfare schemes to be implemented according to the plan; those living in the constituency of an opposition M.P. can expect at best a second-rate service.

Secondly, there are individualistic pressures on politicians. These take two forms: access to medical services on behalf of clients; and interventions in the careers of 'suppliers', the medical and paramedical employees. There are two main types of clients: those wanting to be patients, and those wanting to be doctors. The supply of medical services is grossly inadequate, as it is in most parts of the world, but there is no formal mechanism to ration access to those services which are provided. At the bottom of the medical hierarchy, the P.H.C. or sub-centre, far from competition for scarce resources, the facilities are often under-used. Patients routinely by-pass the P.H.C., either using private practitioners who cluster round about in competition, or going directly to district or medical college hospitals. There are no 'professional' gate-keepers to these services; there is no referral 'hierarchy'; and financial rationing (charging what the market will bear) can only be done

surreptitiously. In these circumstances, would-be patients search for intermediaries to bolster their case for admission, or for cheap or free access to essential treatments for their condition, in the knowledge that the decision to admit one patient rather than another is rarely made on technical criteria alone. Local politicians write letters of introduction for their clients; or telephone to hospital administrators in their support; or accompany them to the hospital.

At the highest levels, politicians may use Parliament or the State Assembly to marshal their attacks against doctors who have failed to give in to their orders (see, e.g. Lok Sabha debates, 16 May 1972 and 31 July 1972). On other occasions doctors working in the clinics and hospitals for Government employees may find themselves criticised during budget debates. A politician may propose a motions to cut the Health budget by a certain amount because of the behaviour of doctors in a particular clinic or hospital, and use the opportunity to try to settle scores in this way. Delhi doctors are well aware of the vulnerability of their position because of the number of 'V.I.P.s', not personally known to the doctor, who are liable to demand favourable treatment for themselves or their clients (interview notes; Delhi Medical Association Annual Reports). As one doctor put it, in the Diamond Jubilee Celebration Souvenir of the Delhi Medical Association, "even the senior doctors ... are often blackmailed and even humiliated by the incompetent bureaucrats and corrupt politicians" (Jain, 1974).

Admissions to medical colleges are the other major medical resource which doctors control. As I shall argue in Chapter 9, the paramedical positions have not been particularly popular, largely because there is a much weaker private market for their skills, and less opportunity for emigration. The female categories - nurses, A.N.M.s and L.H.V.s - have often been short of applicants. Medical education, by contrast, has always been over-subscribed manyfold. At some times, there has been a

collective response: private groups (usually politically well-connected) have established medical colleges in some States (notably Karnataka and Bihar). Concerted pressure by Delhi parents also led to the creation of a fourth medical college in the capital in 1972. The strength of this pressure can be indicated in the amounts of money which parents are prepared to pay as entrance (or 'capitation') fees to private colleges. Not surprisingly, evidence of corrupt practice in the admissions to government medical colleges are frequently made but rarely substantiated. Formally, admissions are made on merit, and this probably accounts for most entrants. However, many colleges have a reservation of places for nomination by the Governor, and these are the subject of considerable pressure, quite apart from any candidates who may improve their chances in other ways.

In the case of the pressures concerning the appointments of staff, the crude distinction between clients and suppliers breaks down. Medical staff want 'desirable' appointments, defined according to a number of criteria such as access to towns (the bigger the better), or to a home area, or near a spouse's appointment, and so on. Politicians use these preferences as part of their political stock-in-trade, offering to medical staff support towards meeting these priorities in exchange for money or political allegiance.

At the lower level certain posts may have a reputation for 'costing' a certain amount of money (Wade, 1984). At the higher levels (posts such as those which can affect admissions to medical colleges, or grant other kinds of power) the element to be traded is more likely to include the granting of equivalent favours back - a tacit agreement to help the condidates of one political party or faction when requested. The two kinds of pressure thus interact: staff want some posts more than others and politicians want some posts filled more than others, and more importantly, by their own appointee rather than someone else's.

In this kind of structure, staff perceive the desires of some clients more powerfully than those of others. Some clients have influence over postings while others do not. In general, the wealthy have such influence, and their support (or at least, the absence of any hostility) may seem likely to be crucial if the member of staff is engaged in a dispute with a patient or a superior, or threatened with an unwanted move or denied a wanted one. 'Defensive' strategies thus mean that staff look over their shoulders to their relationships to their wealthier clients, even in the absence of financial incentives (e.g. through their payments as private patients, whether legal or illegal). Thus, for example, Banerji notes how female paramedical staff tend to visit only the homes of the wealthier villagers: he explains this partly in terms of their own comfort (more pleasant company, better hospitality), but maintaining good contacts is also a necessity for those who want some say over their career possibilities (Banerji, 1972).

One exception to this kind of process is if staff members can maintain good relationships with superiors on the basis of their ability. However, in only one field can this be done with any measure of certainty: the meeting of family planning targets. Staff throughout the health ministry hierarchy are routinely threatened with transfer or dismissal for the failure to meet such targets, and offered support for promotions and desirable transfers for success. This kind of pressure reached its heights during the Emergency, but it has been part of everyday practice for much longer (Vicziany, 1983).

In general, the higher-paid posts receive much greater prominence. No-one is much concerned with the new appointment of an A.N.M.; but the appointment of doctors in general, to higher administrative or teaching medical posts in particular, are issues which arouse considerable political dispute. Staff themselves expect to spend time negotiating for good posts or avoiding bad ones, and politicians spend a lot of time supporting

candidates for posts or (if in power) responding to such pressures. Indeed, pressures from clients and from employees, either directly or mediated through other politicians, tend to dominate the lives of Ministers. Dr Sushila Nayar, Central Minister of Health in the early 1960's put it to me like this:

> Q: As Health Minister what political pressures were you under?
> A: Mostly pressures from my colleagues on appointments - I made some costly mistakes as a result of this, until I realised what was going on. Then they wanted me to open new medical colleges in their areas; they wanted me to get people admission in medical colleges; and there were pressures over the purchase of equipment. I managed to ignore most of these. (Interview, 1976).

The prominence of doctors, and the absence of ideological dispute about medical policy, are both enhanced in the process.

The relative absence of ideological dispute is all the more surprising because of the opportunity offered by competing medical systems, It is not, of course, totally absent. There have been vigorous attempts by the proponents of the indigenous systems of medicine to assert their claims to larger shares of Government expenditure, Government employment, or official appointments. These campaigns have had supporters as high as the Central Cabinet: Nayyar reported that she had colleagues who wanted equal treatment for indigenous systems of medicine, some for 'political' reasons and some because of their convictions (interview, 1976)(see further below).

The structure of constitutional divisions described above also limits the forms of conventional political pressure, through parliamentary activities. In the Lok Sabha, the major opportunity for debate is usually the presentation of the budget of the Ministry; opponents put down 'cut' motions, calling for the budget to be reduced because of the failure of the Ministry to do certain things. These debates in New Delhi are often dominated by lists of inadequacies in the Central Government Health Service (the facilities provided for Central Government emplcyees, often

also used by members of Parliament as well). Other topics usually relate to claims for improved facilities in the politician's own part of the country, or general complaints about shortfalls in facilities. There are very rarely clear and consistent criticisms of health policies from any particular angle, nor debates sponsored by the opposition on medical topics. Only two exceptions from this generalisation are significant: support for the indigenous systems of medicine, produced on almost every possible opportunity by some members and usually ignored; and requests for more doctors to serve in rural areas (see Chapter 9). While the absence of informed political debate is noticeable in the Lok Sabha (or Central Parliament), and could be explained by the constitutional divisions, it also seems to be true for the State Assemblies. Most political activity with respect to health takes place outside the Parliamentary forum.

PROFESSIONAL ASSOCIATIONS

The main 'external' pressure groups which attempt to influence health policy are occupational groups - representative associations of public sector doctors, integrated practitioners, Western doctors in private practice, indigenous practitioners and so on. The avenues for occupational groups to affect policy are varied, and favour some more than others. Allopathic doctors have one great advantage, for some of their members are on the 'inside' in positions of influence, though divisions within the occupation (between specialists and generalists, self-employed and employees) mean that they are less able to use this advantage than might have been expected.

Almost all medical and paramedical personnel have some form of association to join, but those for paramedical staff are much weaker than those of doctors, Western or indigenous. The most political of the medical associations is the Indian Medical Association (I.M.A.), but there are several other associations of Western doctors. The most notable of these are the associations

of specialists (surgeons, physicians etc.) and of doctors in specified employment (by the E.S.I.S., coal mines etc.) There are also other (less stable) groupings for the 'integrated' doctors (those with a joint training) as well as for Ayurvedic and Unani practitioners, and even one for those who practice Western medicine without formal qualifications to do so (the Private Medical Practitioners Association of India). By far the best documented is the I.M.A., and in most of this section I shall concentrate on its history, organisational form and mode of operation.

Early organisations of doctors in India either restricted their membership to European doctors, or were dominated by them, and were often affiliated to the British Medical Association (B.M.A.). A Bengal branch of the B.M.A. established in 1863 broke up in 1867 over the reading of a homeopathic paper; several other attempts to create Indian branches were short-lived, until separate membership for officers in the Indian Medical Serrvice became popular in the 1890's (Johnson and Caygill, 1973:198-209). But there were also medical societies of a more academic nature. In Bombay in the 1880's there was a Grant Medical College Society (open to Indian and European doctors) and a Bombay Medical and Physical Society (apparently restricted to members of the I.M.S. and R.A.M.C.) which predated the Bombay branch of the B.M.A. (1889) (Cursetji, 1934:255-62).

Indian doctors began to establish alternative societies, (e.g., the Bombay Medical Union dating from 1883), which also received fluctuating support. These societies often took an active stance in political issues, presenting memorials and sending witnesses to appear before Royal Commissions which considered medical matters in London or in India. They lacked a stable all-Indian organisation until regular All-India Medical Conferences were held in the mid-1920's and the I.M.A. was founded in 1928, as a coalition of local medical associations. Its original membership of 200 doctors grew steadily to over

3,000 ten years later.

The I.M.A. was closely linked to the nationalist movement. M.A. Ansari, a member of the founding Executive Committee, had been President of the Congress Session of 1921. The address given by Dr Sir Nil Rattan Sircar to the All-India Medical Conference in 1928 made no secret of the speaker's view of the causes of medical backwardness in India.

'The secret of this unfortunate situation is not hard to discover. An alien trusteeship of a people's life and fortune is almost a contradiction in terms. For among the governing factors in all sanitary reforms and movements are the social and economic conditions of life, the environment, material as well as moral, and above all the psychology of the people - and an alien administration, out of touch with these living realities, will either run counter to them and be brought up against a dead wall of irremovable and irredemiable social facts or, wearying of fighting half-understood obstacles in the path, grow timid and fight shy of all social legislation even in the best interests of the people's lives and health.' (Ray, 1929:5)

These sentiments were repeated by speaker after speaker at this conference, with the most hostile comments reserved for the Indian Medical Service, seen as dominated by racist sentiment. B.C. Roy, also a prominent member of the Congress Party, used similar terms in his Presidential address in 1929 when he spoke of the 'determined and systematic efforts (which) have been made in the past to keep us in a perpetual state of inaction and stagnation' (Roy, 1964:276). For these doctors, the complaint against the British was that they had not developed medicine in India far enough. However, because of the link between cultural renaissance and Indian nationalism, it was necessary for the leaders of the I.M.A. to offer co-operation to indigenous practitioners. Sircar's address included the assertion of his view that 'we must put ourselves *en rapport* with the genuine living representatives of the ancient medical art' (Ray, 1929:9); and Roy wanted to open membership of the I.M.A. to those who 'honestly believe in their own system of medicine and practice it

with real sincerity' (Roy, 1964:275-6). But there seems to have been little support for these views, and they were pushed on one side during the course of the disputes over the international recognition of Indian medical degrees.

The proximate cause of the establishment of an all-Indian Medical Association was the claim by the General Medical Council in London that Indian medical degrees were no longer adequate as sufficient evidence of a doctor's ability to practise in the United Kingdom, and by inference, to be a member of the I.M.S. (Jeffery, 1979). The G.M.C. said that it would withdraw from this position if an Indian Medical Council was established. But it was clear that such a council would only be respectable in British eyes if it had a membership largely nominated and official. This led to the medical *cause celebre* of the 1920's and 1930's. The I.M.A. accepted the desirability of a national Medical Council, to co-ordinate the work of the Provincial Councils, established since 1912, but argued for the inclusion of licentiate doctors on the all-India register, and for a larger elected, non-official element, in line with more general nationalist arguments. The early sessions of the I.M.A., and the editorials of its Journal, are dominated by this issue until 1933, when the new Indian Medical Council was established.

With the change in Congress policy in 1936, from opposition to the reforms of the 1935 Government of India Act to a willingness to contest elections and enter Assemblies, the I.M.A. also became involved with the work of the new I.M.C. A major actor in this arena was B.C. Roy, a member of the Council who was by 1945 arguing against the maintenance of licentiate qualifications though he maintained the view that they should be registered along with graduate doctors (Roy, 1964:290-1). But throughout these arguments it was clear that close association with indigenous practitioners would be incompatible with international recognition, and the desire to maintain this point ensured that barriers between Western and indigenous doctors

would be reinforced.

Medical politics were not the sole activity of the I.M.A.: it has published a Journal since 1931, with the bulk of the material being academic articles, and Branch meetings also have academic sessions. But it is difficult to avoid the impression that the political activities of the I.M.A. have been dominant.

THE I.M.A. IN INDEPENDENT INDIA

From its origin, the I.M.A. has been seen by both its membership and the Government as the mouthpiece of the private practitioners, particularly those in general practice. Prior to 1933 there was an attempt to ensure that Government servants did not join, on the grounds that the I.M.A. would recommend its members to vote for certain candidates (presumably Congress) and that this made it a political body and therefore out of bounds to Government servants (N.A.I. File 18-6/37-H). This bar was dropped when I.M.A. rules were changed to delete those clauses which urged to support candidates sponsored by the I.M.A., but the image of official disapproval has remained, and some doctors have claimed that their I.M.A. activities have been a cause of problems in their careers. The benefits offered by the I.M.A. also tend to be directed towards private practitioners. Membership of the I.M.A. has, at different times, meant preferences in the allocation of telephone connections, cars, or motor-scooters; Government doctors have separate access to these scarce resources.

These are probably some of the reasons why the I.M.A. is unable to attract a membership of more than about 35% of the total number of Western doctors in the country. Membership at Independence was about 10,000, reaching 18,000 in the mid-1950's, rising to 26,000 in 1965 and 41,000 in 1975 (I.M.A.[Annual Reports] various years). Most local Branch activities are

organised with the convenience of private practitioners in mind, taking place in the afternoons when most clinics are closed but when doctors in employment may still have to attend to their duties. In the 1960's the I.M.A. attempted to draw the associations of specialists into a closer relationship, preferably under its own Specialty Wing but this was largely unsuccessful. Although doctors in employment have occasionally sought the assistance of the I.M.A. and have acted togtether (as in the agitation against 'quackery' and for improvements in service conditions in 1969) they have resisted attempts by the I.M.A. to establish a longer-term relationship.

Thus both Government and doctors seem to concur in seeing the I.M.A. as representing only the general, private practice fraction of Western doctors. Nonetheless, the I.M.A. has been the largest association of doctors, and it has attempted to present its views on medical policies in as many fora as possible. The headquarters were moved from Calcutta to Delhi in 1948, to bring the association nearer the centre of power, and the I.M.A. has worked constantly to be 'taken into confidence' by politicians and medical civil servants. It has representatives who attend a wide range of committees - the Annual Report for 1973-4 lists 18, all with some form of Governmental involvement. The most prestigious of these are the meetings of the Central Councils of Health and Family Planning/Welfare. The I.M.A. President is usually invited to attend, but not as a full member.

However, I.M.A. officials generally complain that Goverrment does <u>not</u> take them into 'confidence' in medical decision-making. During 1960's a concerted attempt was made to improve the effectiveness of the I.M.A. as an influence in decision-making. A Public Relations Standing Committee was established in 1963, stating its rationale as a result of the progress of modern medicine and the enlightenment of laymen. It argued that the I.M.A. should study proposed legislation and that its views should be put forward in the press and 'through personal approach

to the legislators or Health Department Officials, administrators and others directly concerned' (I.M.A.[Annual Report]:1963/64). The main objectives of the committee included communicating medical news and information, and presenting a positive image of the profession by preventing internal conflicts and 'presenting a true, realistic picture of the medical men (sic) of today' (ibid.). The apparent failure of this approach was increasingly stated in the late 1960's, particularly over Government plans to regularise the practice of medicine by unqualified personnel. This led the I.M.A. to follow a strategy designed to generate public support for their position, using Protest Days, marches, and a more concerted attempt to use the Press as a vehicle for its views. (See further in Chapter 9 below.) However, this strategy was largely abandoned by 1975 (when the Emergency made public protest illegal) and the I.M.A. returned to its former methods of influencing events. I.M.A. office-holders visit Ministers with Memoranda about policy proposals; they hold conferences on topics such as Rural Medical Relief and invite politicians to open or close the proceedings, and medical civil servants to give papers or chair scientific sessions; and they use other contacts (such as doctors who are also MP's) to improve relationships with Government. I.M.A. office-holders still believe that they do not have the kind of access and relationships which can be turned into policy influence.

One reason for the political weakness of the I.M.A. is its dependence on the very Government it is trying to influence. The I.M.A. is not a wealthy organisation: it does not employ any doctors full-time, and is dependent upon the committment of working private practitioners to give up afternoons in office work in the Delhi headquarters, or to attend meetings and conferences during working hours. Many of its proposals for action (such as the involvement of the I.M.A. in school health or family planning activities) are only viable if they are underwritten by Government funds. It is clear that only an increase in income from this source would permit the I.M.A. to

expand its H.Q. staff and employ doctors or other professionals in an executive capacity. The major sources of patronage available to the I.M.A. - access to priority allocations of scarce goods - are provided by the Government. Its prestige activities - conferences, buildings, overseas tours - also depend on Government funds and permission.

Another source of its political weakness is its tendency to internal disputes, mentioned above. These disputes can be aggressively pursued: for example, the President of the I.M.A. for 1970-71 was prevented from taking office because of a legal dispute over whether Bombay was entitled to Branch status separate from that of Maharashtra State. In several years legal expenses in respect of litigation, usually connected with elections to the 'prestige' offices of President and Vice-President rather than the 'working' offices of Secretary or Assistant Secretary, have taken over 5% of I.M.A. income. The posts of Secretary and Assistant Secretaries have rarely been contested and have stayed in the hands of a small group of Delhi G.P.s. There have only been six holders of the post of General Secretary since 1948, and several of them have only had licentiate qualifications. Further disputes have been generated over matters such as attempts by office-bearers to discipline I.M.A. staff, whose cause has been championed by some I.M.A. members. These disputes have largely been caused by factional political divisions within the I.M.A., and have weakened its ability to act decisively.

A third reason for political weakness is the limited spread of doctors into rural areas. This probably made little difference to doctors, other than causing them embarrassment when they were accused of being unwilling to go where they were most needed, while political policy was largely the preserve of the urban intelligentsia (as under Nehru). But with the changing structure of Indian political life, described by some as a 'ruralisation of politics', this has become much more significant (Rosenthal,

1970). Doctors have been much less well placed than unregistered practitioners to arouse rural public support or factional followings, and these kinds of political resource have become much more important to political success, except during the Emergency of 1975-77.

The I.M.A. thus demonstrates several of the general features which Johnson considers typical of professional associations in post-colonial states, and which, he argues, makes it appropriate for them to be regarded as essentially different from their counterparts in the ex-colonial metropolises (Johnson, 1973). He argues that their activities tend to be limited in range, their membership low, and advancement and prestige within the association mostly sought by marginal practitioners. Johnson's model includes two other criteria, to which the I.M.A. has conformed less clearly. Johnson argues that ambitious young doctors would use an organisation such as the I.M.A. as a route to advance in public careers; and that international networks would be of crucial significance. The first of these was true for the period around Independence: several leading politicians were active in the I.M.A. and then moved onto a wider political base, the most notable being Dr Bidhanchandra Roy, an early President of the I.M.A. and later an elected member of the Medical Council of India. He became Chief Minister of West Bengal for many years in the 1950s. Another example is that of Dr Jivraj Mehta, also prominent in the I.M.A. and then the first Secretary of Health and Director-General of Health Services in Independent India, before becoming an ambassador. By contrast, in the 1960's such links seemed to be waning. For example, in 1970 ten doctor-MP's were invited to attend a meeting of a committee concerned with monitoring legislative proposals, but only one turned up.

The role of international networks is also difficult to substantiate. The I.M.A. is certainly proud of its membership of international associations like the World Medical Association, and the Commonwealth Federation, and hosting internaticnal

conferences of such bodies is undoubtedly prestigious. In addition, in a situation where foreign exchange is difficult to obtain, attendance at conferences abroad could be a prized right. However, this has been of fluctuating significance. On occasion, doctors attending such conferences have had to pay all their own expenses, and there has been little competition to go - rather, doctors who happened to be in the right country at the right time have represented the I.M.A., and have played no apparent further part in its activities.

Many of the other medical associations share these characteristics with the I.M.A. Associations of specialists have not tended to be active in attempts to affect medical policies, except for relatively technical issues, such as the conditions for the import of medical equipment. They have also had to depend on the Government for financial support. On the other hand, they are more likely than the I.M.A. to be dominated by doctors in the public sector, with official posts usually held by Professors from the senior medical colleges; and factional disputes are less likely to erupt into public or legal arenas than is the case for the I.M.A.

The general dependence on Government can also be illustrated through the history of the Indian Academy of Medical Sciences (I.A.M.S.). This was sponsored by Dr K. N. Rao when he was the Director of Health Services in Andhra Pradesh in the 1960's, and taken up by him again when he was Director-General of Health Services in New Delhi. The I.A.M.S. was to play a role somewhere between the British Royal Colleges and the Soviet Academies of Science, but Rao's strategy was entirely dependent on Government sponsorship. He managed to achieve the formal establishment of the I.A.M.S., but it was totally restricted to the granting of honorific titles until 1975. In that year, Indian medical qualifications were again 'derecognised' by the G.M.C., and in retaliation, the Government of India insisted that British qualifications would no longer be recognised in India. The

Government chose to use the I.A.M.S. as a vehicle for providing medical qualifications in India, separate from the University sector, to provide an equivalent to British Royal College qualifications since these were no longer to be recognised.

CONTROL OVER "QUACKERY": A CASE STUDY

One further way to understand the nature of medical politics, the tactics of the various participants and the values they are trying to establish, is to look at a case study. There is no doubt that the primary issue which has exercised the I.M.A. since 1947 has been policy towards practitioners unqualified in Western medicine. Prior to Independence, the expressed attitudes of doctor-politicians were not very hostile. In the 1930's, as I have shown above, several Presidents of the I.M.A. called for a rapprochement between allopathic and indigenous practitioners. Even so, the hand of friendship was only offered to 'sincere', or 'genuine' practitioners who maintained a 'pure' practice of the ancient arts. But I.M.A. policy since 1947 has been consistently to draw a clear line between allopathic graduates and licentiates on the one hand, and all other practitioners, usually called "quacks". Under pressure the I.M.A. has admitted that trained **vaids** and **hakims** should be permitted to continue in their own line, but it has protested vehemently against 'integrated' practice (combining training and treatment from more than one system) and the use of allopathic treatments by untrained personnel. The Public Relations Sub-Committee expressed it in this way in 1963:

> "Quackery is rampant in our country. It would be the duty of the Association to acquaint the public and educate the illiterate masses about the same with a view to elicit their co-operation in rooting out this menace."

Unfortunately for the I.M.A., the public and many politicians and civil servants do not see the matter in the same way. Propaganda against travelling sellers of cures, usually

totally fraudulent, has been undertaken by the Government, but neither it nor most patients see established practitioners with dubious qualifications, nor the use by **vaids** and **hakims** of allopathic medicines, as the same kind of issue. Whatever the overall doctor-population ratios might say, it is clear that in many areas trained doctors are few and far between. The Government has therefore argued that the unqualified practitioner is entitled to earn his living in this way as long as he is not an actual threat to his patients, at least until there are enough trained doctors to replace him. This view is held despite the existence of legislation designed:

(i) to restrict the spread of unqualified practice by registering existing practitioners and then outlawing any future additions to the register (following a Bombay Act of 1938 as a model);

(ii) to prevent any medical practice by those unqualified in modern medicine (enshrined in a clause of the Act which amended the constitution of the Medical Council of India, in 1956); and

(iii) to prevent the prescribing of drugs contained on a list of dangerous drugs (enshrined in the Drugs Act of 1940).

The I.M.A. has frequently tried to insist that this legislation be enforced, but it has usually been ignored. This may be because, at the local level, the relevant agencies (District Medical Officers, or the police) prefer to maintain illegal practices for considerations, or as part of the network of favours and obligations which are the everyday currency of political life. However, when it has been proposed that policy should change to over-rule aspects of this legislation, the I.M.A. has managed to prevent most of these changes being implemented. The 'bare-foot' doctor scheme of 1972-3, and the proposal by the Kerala Government in 1974-6 to establish a common register for qualified and unqualified personnel, were two cases where sustained 'trade-union' action was successful, in combination with other factors, in preventing a change. But opposition to the schemes developed since 1975, again based on a

'bare-foot doctor', has not prevented the establishment of Community Health Volunteers. The rural populism which characterised the Janata Government led it to over-rule medical opposition, and the new Congress Government of 1980 eventually decided to maintain a commitment to implementing the scheme (Joubert, 1985).

The associations of indigenous practitioners have also been concerned with policy in this area. As Brass has shown, these associations have been divided into two opposing camps - those who have insisted on a 'pure' **Ayurveda** and those in favour of some integration of Western and indigenous practice (Brass, 1972). Most education in **Ayurvedic** and **Unani** colleges prior to the 1960s was 'integrated' with modern subjects, such as anatomy and physiology, but this led to increasing stresses after 1947. Students in general tended to want more Western medicine, since they were often taking courses in indigenous medicine as a second-best option, having failed to get into Western medical colleges. They then used their training to claim that they were entitled to employment on the same pay and conditions as Western graduates. But the political case for indigenous medicine rested on its suitability to Indian culture, diet and climate, and on its claim that it was providing services in the rural areas which Western medicine was unwilling and unlikely to supply. The contradictions in this situation were resolved by decisions in the early 1960s which removed 'modern' science from the curriculum of most indigenous medical colleges and followed the 'pure' line. This line which was also preferred by Western doctors because it might lead to a clearer delineation of the distinctions between the systems of medicine, and a clearer ability to stop 'outsiders' (those without full Western qualifications) from encroaching on Western territory (G.O.I., 1961b).

But this dispute has not died. There remain deep contradictions between the representatives of 'pure' **Ayurveda** and

the actual practices of most graduates of the indigenous colleges. The practitioners routinely use aspects of Western medicine, and usually insist on their right to prescribe any legal drugs. The logical problems of attempts to synthesise an integrated 'system' of medicine are usually regarded as insurmountable; but at the level of everyday practice, many practitioners and clients are willing to move between these incompatible systems. In addition, the indigenous graduates have been almost as unwilling to work in rural areas as have their Western counterparts. The debates over high policy have thus tended to be carried on at considerable remove from everyday reality.

These processes have thus led to a weak form of medical oligopoly. Not only do indigenous practitioners continue to exist, they also have a measure of State patronage for their colleges, with some public employment prospects for their graduates. Most recently, graduates of indigenous medical colleges have supposedly been employed as the third medical officer at Primary Health Centres. In private practice they also prescribe Western medicines with varying degrees of impunity, and run successful clinics in urban as well as in some rural settings. Since 1977, the Western doctors have also had to accept the creation of a new group of healers, also with some State patronage, in vast numbers. In I.M.A. terms, this is a sponsorship of 'quackery' which they have been powerless to prevent.

CONCLUSION

The I.M.A. has been generally unsuccessful in its campaigns. Its office-bearers feel they are excluded from the informal policy-making process, and formal attempts to influence policy have been of limited success. It has not followed a clear-cut policy of promoting private medicine: for a period during the 1970s it favoured a complete nationalisation of medical services

as a way of dealing with the problems of over-crowding in medicine. Other organisations of practitioners have been even less successful, whether they have been paramedical practitioners or those from the other systems of medicine. The main strength of the Western doctors has come from their representatives within the official hierarchy, where they have been able to trade on their control over scarce, desirable resources - access to hospitals and medical colleges. Health policy-making has thus taken place in the absence of sustained ideological debate, whether over the system of medicine to be supported, the role of private medicine, or the distribution of resources between uses. I shall now turn to look at international pressures on policy-making, which have involved some of these issues.

CHAPTER 8

INDIA IN THE WORLD HEALTH ECONOMY

It was obviously impossible to understand health policy in India before 1947 without looking at the role of the British Government. Indian health and health policy since 1947 must also be seen in the context of a world economy. This has had a number of implications, some of them very general. For example, the Indian economy has been influenced by its access to technology and world markets which has not been true, until recently, of China. The cultural implications of this access have been to present a picture of a desirable future to the Indian elite, which has influenced decision-making in a number of fields. And the role of multinational corporations has been to affect the generation of internal capital and investment decision-making. However, as I argued in the Introduction to Part B, these forces have not been as powerful or substantial in India as in many other peripheral capitalist economies. In this chapter I shall 'bracket off' concern with the wider context (and I shall return to it in the Conclusion) in order to focus in turn on three areas where the links to health and health policy are more direct. The first is health sector aid; the second is the migration of health sector personnel; and the third is the operations of multinational corporations, as employers, producers, and sellers - particularly of pharmaceutical products.

HEALTH SECTOR AID

Health sector aid to India has not been the subject of much discussion apart from the special area of family planning. The most recent critic - D. Banerji - argues that donor agencies are actively supporting moves to reintroduce compulsion in family planning, in spite of the apparent shift in health sector aid programmes after 1975 (Banerji, 1981; but see also Kocher, 1980). The basis of Banerji's critique is a familiar one. He argues that

health policy (in this case, maternal and child health and family planning) must be understood in the context of an international political economy. Health policies supported by the World Bank or other capitalist institutions must, in this perspective, be seen in the light of the interests which they serve, and Banerji predicts that the new resources are not 'really' for maternal and child health but merely a facade to cover the planned return to compulsion in family planning. This argument, however, can only finally be settled by the course of events in the next few years: in this section I am concerned with the patterns of aid in the period between 1947 and 1980.

For the purposes of this chapter I shall define health sector aid as 'international assistance to the health sector'. It may or may not have any impact on health, and aid to other sectors may have more impact (for example through raising female literacy). 'Aid' and 'assistance' are of course contested terms, but I shall use them for simplicity. The only substantial work on health sector aid, using the same basic definition, has been carried out in the Institute of Development Studies in Sussex, (Cole-King, 1976; White, 1977) but this concentrated on assessing patterns of activity by donors while I am concerned here with the pattern for one recipient country.

Health sector aid has not attracted the same hostile attention paid to other aspects of 'official development assistance': the general aura of disinterestedness which surrounds the doctor and nurse has carried over to the international aid which is supposed to train, employ, equip or house them in underdeveloped countries. Nevertheless, there is a growing body of critical literature, dating from the mid-1970's, and many of the criticisms have been accepted by key decision-makers, both in donor agencies and in Health Ministries in the Third World. There is a powerful argument against focussing attention on health sector aid, since this may well have a far less significant impact on the health of Indians than other aspects of the

world-economy. But health 'aid' should not thereby be ignored, but be seen in a context set by other transactions - the focus of the second and third sections of this chapter.

CRITICISMS OF HEALTH SECTOR AID

Few people have argued that all health sector aid should cease; rather they have argued that the form it has taken has:
(a) led to increased dependency relationships;
(b) been an inappropriate use of techniques and models; and
(c) been informed by conscious or unconscious Malthusian intentions.

(a) The extension of dependency relationships

Gish's pioneering work on flows of doctors and other medical personnel between the U.K. and other countries provides one of the earliest examples of the ways in which health sector aid could be said to benefit the donor rather than the recipient (Gish, 1971). Some of the doctors and nurses brought for training to the U.S. and the U.K. stayed behind after their training and helped meet manpower shortages there. A considerable literature has developed which attempts to measure the benefits reaped by countries receiving flows of doctors and nurses in this way, with a number of proposals to tax these benefits for transfer to the countries losing medical personnel (Gish, 1976).

It is clear that in the case of India, at least, this 'brain-drain' has been funded mainly by the doctors involved themselves (relatively few Indian nurses are abroad) and not by aid agencies. Nevertheless, some critics have argued that these flows are only possible because of the professional links maintained partly by foreign support for the training of medical educators abroad. As a result, medical colleges in India have remained oriented to Western models of medical training, at the expense of appropriateness in terms of local patterns of disease

and services (see Jeffery, 1979 and Chapter 9 below). In this way 'medical dependency' is reproduced: not only flows of trained personnel but also orders for medical equipment and pharmaceuticals tend to divert benefits back to the donor countries (Doyal, 1979; Cleaver, 1977).

A major weakness of this kind of analysis is its focus on the external partner in an aid or trade relationship. (For general discussions of dependency theories, see Roxborough, 1979; Foster-Carter, 1978; Worsley, 1980.) It sometimes appears as if 'metropolitan' countries are totally dominant, and need take no account of class formations and State apparatuses within the 'periphery'. But there are good grounds for believing that internal factors will affect the kind of assistance which is acceptable or requested. Some countries, notably, in this case, India, have developed considerable sophistication in manipulating donor agencies.

As with other aspects of dependency analysis, there is a need to specify the period under discussion: there may well be differences between the immediate post-Independence period and later on. In addition, the material benefits to the donor are seldom quantified. It may well be that supporters of health sector aid point to material benefits in order to persuade donors to provide support, but the supposed benefits (e.g. a more profitable environment for multinational investment) may not materialise, nor may they affect the decisions taken after the assistance has been sanctioned. While it is valuable to debunk the claims that health aid is purely philanthropic, it is also necessary to bear in mind the relative insignificance of health aid.

One area of analysis which has not been much developed is the part played by medical aid in the maintenance and reproduction of the mode (or modes) of production in underdeveloped countries. This is not perhaps surprising, given

the lack of agreement about what characterises the mode of production in these countries or the way in which several modes of production might be said to interact (articulate) in any specific historical example (Alavi, 1975 & 1981). In the case of India, there is dispute at least between those who interpret the situation as one where there is a post-colonial mode, and those who see articulations between an expanding capitalist mode and a semi-feudal mode (Thorner, 1983).

Without entering into those debates, it is possible to make two relevant points here. The first relates to State structures: most health aid is channeled through the State, and thus helps to expand the resources available to the State and those who control it. Health sector aid thus tends to strengthen the position of ruling groups in general, as well as supporting particular groups such as public sector doctors over those in the private sector, and modern bureaucratic cosmopolitan medicine over informal, indigenous or traditional systems. The second point relates to the particular significance of medicine as an ideological form - one of the ways in which poverty and exploitation can be explained away (or at least those responsible for it can deny responsibility - see Frankenberg, 1981). The provision of individualised medical (and other) services by the State helps to defuse pressures for change in the underlying social structures ultimately causing the patterns of morbidity and mortality (Jeffery, 1978). Health sector aid channeled through the Government tends to support these processes.

There is also the argument that the funding of health services from outside the community tends to weaken its capacity to provide for itself, which can be seen as an important aspect of development itself. However, if the alternative is that the poorest groups are left with the job of managing their own poverty then it is not clear that external assistance worsens the situation (Briscoe, 1980). Some writers have argued that medical services, even those organised originally from outside, can also

have liberative effects, especially among the rural landless or the urban slumdweller (Banerji, 1978). Indeed, some health projects, especially the voluntary, innovative ones, threaten established powerful groups. Perhaps this is possible because health is rarely perceived as central to a pattern of domination; but attempts to make significant changes in the health status of the poor can easily lead to confrontation (Chowdhury, 1978).

(b) Inappropriateness

This criticism of health sector aid is the most familiar, and is in some respects just a less 'political' version of the dependency argument. Much medical aid in the past has been used to establish large hospitals, to install expensive equipment, or to train high-level personnel. The maintenance costs of such large projects can swallow up a considerable proportion of the budgets of poor countries; they have rarely served more than a small proportion of the population (the elite, urban groups); and they have been designed to cope in an expensive way with diseases which bulk relatively small in the morbidity pattern of the country as a whole (Bryant, 1969). Health sector aid has thus tended to move resources out of primary care into secondary and tertiary care; away from rural areas into urban ones; away from preventive, community health and into hospital-based curative facilities; and away from female healers and towards male ones (Doyal, 1979). The legacy of inappropriate institutions - for training, or hospitals, or in the skills of available staff - makes change very difficult to achieve.

A further version of this critique applies hindsight to large aid projects and argues that their failure can be explained by the absence of any attempt to adapt to local economic, social and cultural conditions (Newell, 1975). The most obvious example of this is the malaria eradication programme, which was planned on the model of experience in other parts of the world but which failed to adapt adequately to Indian conditions, notably the

inadequacy of its basic health services (Sinha, 1976; Aggarwal, 1978; Harrison, 1978). Another example would be the early clinic-based approach to the supply of family planning services, which was totally inappropriate to a largely rural country (Banerji, 1972; Demerath, 1976). In both cases, Western experiences were applied, on the assumption that narrow technical issues determined success, and the failure to allow for local cultural, social and economic patterns was ultimately disastrous. The general case is that health sector aid has assisted a wholesale borrowing of techniques and institutions from the West in a naive 'modernisation' framework which has taken inadequate note of the differences between donor and recipient society. Some critics go further and argue that the Western solutions can never serve underdeveloped countries, because they are not effective in the West; while others take the more radical view that these services are counter-productive in health terms, because they generate dependencies which are antithetical to people's ability to manage their own lives (Illich, 1976).

The major weakness of this kind of criticism is that it is rarely located in a political economy of decision-making. The assumption is that such errors are a result of ignorance (and that knowledge will bring resolution) or because of the particularly narrow form of medical education, which can be balanced by the introduction of community elements into decision-making. However, it is perhaps this focus on technical issues which has made it most acceptable to decision-makers, and it is this critique which has had most influence in changing the policies of donor agencies.

(c) Malthusianism

This set of criticisms most obviously applies to population programmes, and specifically refers to the assumption (explicit or implicit) that the cause of a country's poverty can be found in the size or rate of growth of its population. The idea that

world affluence was threatened by population growth in poor countries provided a clear justification for assistance to family planning programmes from the mid-1960's onwards (Piotrow, 1973). This was led by the Ford Foundation and U.S.A.I.D., who continue to support these programmes on a substantial scale, but other donors also became involved at different levels. Critics focus on the potential for such programmes to become another way in which the poor are blamed for their poverty. Resources which could be used to assist them are instead put into programmes which the poor do not want and which meet few of their perceived needs. Concern for preventing births is not matched by concern for those already born, and some critics interpret this as essentially racist, and anti-feminist (Doyal, 1979). However, many writers are also aware of the ambiguities involved: the ability of women to control their own fertility in a safe way is increasingly regarded as a basic right; and the extent of illegal abortions is witness to the number of women who are having unwanted conceptions, or are unable to 'space' their conceptions as they would prefer. There is a fine line between providing services which allow men and women to control the number of children they have, and forcing them to have fewer than they want.

HEALTH SECTOR AID TO INDIA, 1947-1977

Detailed investigation of a case study demonstrates some of the problems with the analyses presented above. To begin with, there is the problem of what economists call 'fungibility'. The provision of aid for one project (say a new hospital) releases local funds for other projects (say a new hotel). Since we cannct know what would have happened in the absence of the aid, we cannot know the extent to which the aid 'really' funds the project to which it is linked on paper (Singer, 1965). It is also difficult to classify health sector aid, since any particular project may have both appropriate and inappropriate or Malthusian features - such as training in the biology of human

reproduction for paramedical workers. I shall have to assume here that it does make sense to talk about the projects nominally funded by health sector aid, and where the data exist, I shall use crude classifications of aid on the assumption that this is meaningful. Table 1 summarises the main sources of foreign assistance to Indian public sector health activities.

In quantitative terms the major donor has been the U.S.A., providing technical assistance to health and sanitation amounting to $107 million between about 1950 and 1973 (see Table 2). After the U.S. Government's 'tilt to Pakistan' in the Indo-Pakistani War of 1971, the U.S. Government ceased new assistance to India. However, a new loan to malaria control was negotiated in 1978, and since 1980 new grants have been made to the area development programmes in five States (see further in Chapter 11). The earlier assistance was almost entirely on a grant basis, and health took about 37% of technical assistance to India in this period. In addition, a grant of $20 million made in 1969 was not tied to specific imports or advisers, but was granted on the understanding that of the extra resources made available to the Government of India, 50% would be spent on improving the delivery of rural health and family planning services.

The final category of U.S. assistance is PL-480 rupee counterpart funds. Grain supplied as 'aid' by the U.S. was 'paid for' in rupees; the Indian Government could only spend these with the agreement of the U.S. Government. Nearly Rs1,000 million (approximately $166 million) went in loans to the health sector, and Rs1,250 million (about $200 million) went in grants. Contrary to some of the expectations derived from the literature cited above, the major share of the technical assistance and PL-480 funding was to malaria control and eradication (78% of technical assistance and 47% of PL-480 funds) and water supply and sanitation took another 6% of technical assistance and 26% of PL-480 funds.

TABLE 1

MAJOR SOURCES OF HEALTH AID 1947-1979

	1947-9	1950-4	1955-9	1960-4	1965-9	1970-4	1975-9	TOTAL
				$ millions				
U.S. Government								
Technical aid		21	46	25	12	2		107
PL-480			70	136	160			366
Other						10	15	25
U.N.I.C.E.F.	0.3	8	10	20	26	40	30	134
W.H.O.	0.2	2	5	6	6	11	23	53
U.N.F.P.A.						5	37	42
World Bank:								
Population						6	15	21
Water Supply etc.						1	69	70
Ford Foundation				3	4	3	1	10
Rockefeller Fndtn.	0.1	0.2	2	1	2	0	-	5
Swedish I.D.A.						2	9	11
Norwegian I.D.A.						4	24	28
U.K.(O.D.A.)							6	6
TOTAL	0.6	31	133	191	210	84	229	878
(excl. PL-480	0.6	31	63	55	50	84	229	512

Sources: For U.S. aid, see Table 2; *U.N.I.C.E.F. Financial Report and Accounts*, U.N. General Assembly Official Records, New York, 1950-1976. (Because of changes in classification and the expansion of activities to include education, the 1970-74 and 1975-79 figures are estimates); *India: Report of Mission on Needs Assessment for Population Assistance*, U.N.F.P.A., New York, 1979; *Twenty years in South East Asia. 1948-1967* W.H.O., New Delhi, 1968; *Twenty five years in South East Asia. 1948-1973*, New Delhi, 1973; *Financial Reports*, W.H.O., Geneva, 1973-77; *Annual Reports*, Rockefeller Foundation, relevant years; *Ford Foundation Annual Report*, Ford Foundation, New York, relevant years. (Details provided change from year to year and the absence of payments information from seven years means that there may be some double-counting); Norwegian aid: personal letter, June 1985.

TABLE 2

U.S. PUBLIC SECTOR ASSISTANCE IN HEALTH AND SANITATION

	Technical Assistance (US $ mill)	PL-480 Grants (Rs million)	PL-480 Loans (Rs million)
Malaria control/eradication	83.3	852	210
Filaria control	2.4	*	*
Smallpox control/eradication	*	103	27
Other communicable disease control programmes	0.4	*	*
Water supply	6.4	*	587
Medical education	2.8	*	*
Nursing education	1.2	*	*
Family Planning	6.2	*	*
Miscellaneous	3.9	*	*
TOTAL	106.7	1249	999

Sources: Technical assistance completed projects and activities, Office of Controller, U.S.A.I.D., 1976:259; Shenoy, 1974:243.

* categories are not separately recorded.

Note: The Times of India Directory and Yearbook reprints press releases from the U.S.Embassy in several editions from the mid-1950's onwards until 1969-70. This incomplete listing gives some evidence on the timing of this assistance, and notes Rs29 million to A.I.I.M.S., Rs134 million to primary health centres, and Rs74 million to the training of medical educators before 31 March 1966.

Report on Currency and Finance, Reserve Bank of India, lists loans from 1969/70 onwards. A loan from U.S.A.I.D. for malaria control was agreed in 1978, and Rs120 millions ($15.4 millions) was spent in 1979/80 under this head.

There has been something of a division of labour between U.S. aid and that of the W.H.O.: while material supplies have come from U.S. aid, technical advisers (many of them American) have been provided under W.H.O.'s auspices. Indians were also trained on U.S. government funds: for example, 249 between 1952 and 1960 were trained in health subjects, roughly 10% of the total (Shenoy, 1974; Times of India, 1951-67).

U.N.I.C.E.F. has provided substantial assistance to Indian health programmes, often in collaboration with W.H.O., particularly to maternal and child health services, tuberculosis and leprosy control programmes, the production of vaccines, and to the applied nutrition programme. Over the period 1947-70 U.N.I.C.E.F. provided over $64 million, mostly in the health sector, though in recent years it has diversified its assistance into education. This excludes emergency relief. India is also a contributor to U.N.I.C.E.F., including $15 millions as a member since 1950, so this is not 'net' assistance. A detailed breakdown of U.N.I.C.E.F. assistance to India by purpose is not available, but the largest share was in supplies and equipment - anti-malarial and anti-T.B. materials, milk for child feeding, jeeps for primary health services and so on.

Since 1971, the U.N. Fund for Population Activities (U.N.F.P.A.) has provided substantial assistance, with $43 million allocated up to 1979. Smaller grants have been handled by W.H.O. or I.L.O.; larger awards have been managed direct by U.N.F.P.A. or by the U.N.Development Programme. Some of this assistance has been firmly within the family planning programme of the Government of India, such as $14 million for the expansion of the sterilisation programme; others have been concerned to strengthen training for paramedical workers who do more than just family planning work, as in the grants of $20.5 million for training indigenous midwives and paramedical workers, and for the employment of nurse-midwives and female health workers.

W.H.O. has also been a substantial donor, with a total of over $40 million between 1948 and 1976. As with U.S. aid, this assistance has been spread over most parts of the Indian Government health programme, with substantial proportions going to malaria control and eradication (13%), smallpox eradication (24%) and tuberculosis control (8%). Suport to communicable disease control programmes (including technical advisers and fellowships for Indians to study abroad) has taken roughly half of total assistance, while education and training has taken 8%. While other countries in the region are increasingly encouraged to send their medical personnel on W.H.O. fellowships to India for training, 90% of Indian fellows study outside the region. W.H.O. provided 1184 fellowships between 1948 and 1972, mostly in public health (570), malaria eradication (83) and control of other communicable diseases (161), but a further 208 were for medical education and 162 for clinical subjects. This category included a link between Baroda Medical College and Edinburgh Medical School; Baroda has the distinction of a graduate population about 50% abroad in 1976 (Bhatt et al., 1976).

W.H.O. has also been a source of technical advice, both formally and informally. W.H.O. advisers attend and sometimes contribute to meetings of the Central Council of Health, as did U.S.A.I.D., Ford and Rockefeller advisers prior to the mid-1960's. They have provided assessments of plans and projects; and their support was crucial in the establishment of the malaria control and eradication programmes in the 1950s, and the smallpox eradication programme of the 1970s. Their 'non-political' status has probably given their advice more acceptability than that of the Americans, though in practice they worked closely with U.S.A.I.D. in the heyday of American assistance, before 1966 (Meyer, 1967).

With the exception of the U.S., health sector aid from other countries or institutions has been less substantial and less regular than the involvement of the U.N. agencies. The U.K. has

in many years been the largest bilateral donor to India, but in the field of health its contribution has been small. It has taken four forms. Firstly there has been assistance known as 'maintenance aid', in which the Government of India imports what it wishes from the U.K., funded by a sterling credit. Here the influence of the British Government is small, but some of the goods so imported (about $720,000 a year in the 1970s) have been medical in nature (White, 1977). The second category is aid for specific projects. In the 1970's this amounted to very small sums in the health sphere, for example $120,000 in 1974, nothing in 1975, and $250,000 in 1976 (O.D.A., 1971; O.D.M., 1978). The third area is technical co-operation, the funding of fellowships in the U.K. and the provision of technical advisers. In part this has been handled through the Colombo Plan, with 50 fellowships a year going to Indians in the sphere of health in the 1960's. Other visits to the U.K. have been provided by the British Council (10 or so a year in the 1970's) and under Commonwealth schemes (50 or so a year in the 1970's) (Colombo Plan, 1969). There was also a scheme in which the Post-Graduate Institute of Medicine in Chandigarh was linked to the Postgraduate Medical Federation at the Hammersmith Hospital in London. The fourth category is an isolated grant of $6 million in 1977 to equip operating theatres at Primary Health Centres and sub-divisional hospitals, largely for sterilisation operations, which was a rare example of British aid available for expenditures in rupees prior to 1979.

Other bilateral donors have provided specific assistance for projects and for training abroad. New Zealand provided $2 millions for the All-India Institute of Medical Sciences (A.I.I.M.S.) in New Delhi in the mid-1950's; and in the 1970's and the early 1980s the Norwegian Government has provided assistance to a post-partum family planning programme. The Swedish Government provided $10 million to the W.H.O. for smallpox eradication in India in the early 1970s, and co-financed a major project with the World Bank. Other countries have been of

less significance. However, as Table 1 shows, whereas until the 1960's the major part of health aid was provided by U.S. sources, the inputs from other donors have become far more significant since 1975. This can be in part understood as a result of the changes in aid orientation discussed in Chapter 11.

Most private sector aid has not been handled by the Government sector in India. The exceptions are the major foundations, Ford and Rockefeller. The Rockefeller Foundation began assistance in India in 1920, with aid to health programmes in Mysore State, and provided $675,000 to the All-India Institute of Hygiene and Public Health in Calcutta before Independence. Since 1950 major grants have gone to the Virus Research Centre in Poona (over $1.2 million by 1973); to the A.I.I.M.S. (over $1.2 million) and its rural training centre at Ballabgarh (over $250,000) and to selected medical colleges - the Christian Medical College at Vellore, Trivandrum Medical College, and the King George's Medical College, Lucknow, in particular.

Rockefeller assistance has tailed off since 1967, whereas Ford Foundation aid dates from 1959 and reached a peak in 1970. This was concentrated on rural sanitation to begin with, but then on population programmes run by the Government of India ($3.7 million) or by the research/action centre at Ganchigram (nearly $1 million). An early and continuing interest has been to help research in reproductive biology (nearly $2 million, with one-third going to A.I.I.M.S.). Both Ford and Rockefeller have also supported Indian Council for Medical Research (I.C.M.R.) research fellowships, as well as offering research fellowships abroad. Rockefeller reports list over 250 fellows in medical subjects who completed their study programme between 1917 and the end of 1968 - a list which includes most of the prominent nurses and doctors in India in this period (Rockefeller Foundation, 1972).

The other private sector agencies are so numerous, and they provide so little documentation of their activities, that it is

impossible to summarise their involvement, but only to provide indicators of their scale and form. For example, the Federal German Republic has provided assistance through charitable agencies to voluntary hospitals and other health facilities, amounting to DM 66.4 million (roughly $23 million) between 1950 and 1980. The major U.S. sources have been C.A.R.E. and the Catholic Relief Services, both heavy users of U.S. surplus food. The Catholic programme handled around $30 million of PL-480 food in India in 1978-9, while C.A.R.E. has handled over $830 million worth of food in India from its inception up to mid-1979 (Catholic Relief Services, 1979; C.A.R.E., 1980). There is considerable dispute about whether this should be seen as nutritional aid or even as aid at all, on the grounds that major beneficiaries have been U.S. farmers, and the import of food has tended to have adverse effects on local food production. This aid has been handled by the Department of Social Welfare, and not the Health Ministry. The Catholic programme also provided nearly $2 million of medical supplies. In 1973/4 roughly a quarter of all British voluntary agencies' health sector aid went to India - about $2 millions (Cole-King, 1976).

In quantitative terms voluntary aid, apart from food aid, has not been very substantial, but at various times it has supported the employment of foreign doctors and nurses, provided basic supplies, and on occasion funded sizeable medical investments, such as much of the advanced equipment at the Christian Medical Colleges in Ludhiana and Vellore. It has also helped to maintain a number of rural hospitals; the voluntary sector (mostly church-related) in India accounts for a substantial share of the hospital beds in the country, and many of these depend on outside support. Finally, some of the main innovative health schemes in India (see Chapter 11) have had considerable support from overseas agencies to help them get started.

TABLE 3

HEALTH AID TO INDIA

	1947-49	1950-54	1955-59	1960-64	1965-69	1970-74	1975-79
			($ millions)				
1.HEALTH AID	1	31	133	191	210	84	229
2. " Exc PL-480	1	31	63	55	50	84	229
3.TOTAL AID UTILISED	{ 443 }	2,954	5,973	3,956	4,763	7,682	
4.Line 1/Line 3	{ 7.0% }	4.5%	3.2%	5.3%	1.8%	3.0%	
5.Line 2/Line 3	{ 7.0% }	2.1%	0.9%	1.3%	1.8%	3.0%	
6.HEALTH EXPENDITURE	108	353	668	1,230	1,280	2,767	6,092
7.Line 1/Line 6	1%	8.8%	19.9%	15.5%	16.4%	3.0%	3.8%
8.Line 2/Line 6	1%	8.8%	9.4%	4.5%	3.9%	3.0%	3.8%

Sources: Lines 1 & 2: as Table 1; Line 3: Report on currency and finance, Reserve Bank of India, various years: 'Utilizations of external assistance'. Line 6: Reddy, 1972; Barnett, 1977; and R.B.I. (op.cit.) for figures after 1975.

Prior to 1965/6 an exchange rate of Rs4.76=$1 has been used; afterwards the rate assumed is Rs7.8=$1.

A number of points can be made about the significance of this pattern of aid. To begin with, while it has formed a small part of total aid to India, at some times it has accounted for a considerable part of public sector expenditures on health (see Table 3).

The malaria programmes were heavily dependent on outside assistance after 1952. Meyer reports that in the next six years the U.S. contributed over half the cost of the control programme, and nearly 40% of the cost of the eradication programme in the next three years (Meyer, 1967). The loss of this aid was followed by a considerable reduction in Indian expenditure on malaria control. Similarly, the family planning programme has received substantial aid, permitting a much larger programme than would otherwise have been possible, even though population assistance has not been the largest item of health sector aid. Aid to medical education has not been substantial, but because it has been concentrated on 'elite' colleges (notably A.I.I.M.S.) and their hospitals, its impact has probably been much larger than the figures would suggest. These institutions have trained a considerable proportion of leading Indian doctors, both educators and practitioners, and the concentration of funding has probably meant that these institutions have been markedly different from the other Indian medical colleges. Nevertheless, it seems reasonable to conclude that the pattern is by no means the straightforward disaster story which some might suggest. In particular, it is clear that hospitals and medical education have not taken the dominant role which might have been predicted. Using crude indicators, the balance of aid to different sectors can be seen in Table 4, which shows that some 75% of aid can be roughly allocated to primary care (rural health services, water supply and sanitation, communicable diseases programmes etc.)

TABLE 4

DISTRIBUTION OF HEALTH AID TO INDIA, 1947-79

Category	General health aid	Population health aid	Total health aid
	U.S. $ millions		
Primary care	555	85	640
	(63%)	(10%)	(73%)
Secondary/Tertiary care	35	24	59
	(4%)	(3%)	(7%)
Medical education/research	30	5	35
	(3%)	(1%)	(4%)
Paramedical training	15	20	35
	(2%)	(2%)	(4%)
Administrative support	5	10	15
	(1%)	(1%)	(2%)
Unallocated	-	-	94
			(11%)
TOTAL	640	144	878
	(73%)	(16%)	(100%)

Sources: as in Table 1 above.

The second general point is that, apart from the fields of family planning and smallpox and malaria control/eradication, it is difficult to show clearly policies which owe their origin or nature to the impact of foreign aid. Population policies supported by external agencies were clearly important in expanding the size of the family planning programme and affecting its nature, but it is also clear that local bureaucrats were able to minimise the significance of many innovations which the foreign advisers attempted to introduce into the family planning programme (Hinkler, 1977). But in the rest of the health sector, it seems more reasonable to argue (as in the Introduction to Part B) that very little in the health plans of Independent India was

not fore-shadowed in the plans and structures established by the British (Hanson, 1966).

A third point of some relevance is that the scale of health sector aid to India has been totally inadequate for coping with the scale of Indian health problems. Of course, health sector aid is not necessarily the most effective way of dealing with health problems, but, even so, it is clear that India has not been treated very favourably in terms of assistance to match its needs. Donor agencies appear to have shared the views of Indian planners (see Cassen, 1978) and regarded health sector expenditures as a social rather than economic area, and health has never been seen as a core part of donor agency discusssions. However, the growth of the notions associated with the 'basic needs' approach to development led to India's 'minimum needs programme' in the Fifth Plan, at the same time as aid to health took on increasing importance in the eyes of donors like the World Bank. This shift has generated the new programmes in health sector aid which I discuss in Chapter 11.

Finally, the pattern of assistance to India has probably been affected by the constitutional distribution of functions between the central government and the States. The Indian Government has generally restricted aid to areas for which it is responsible - the control of communicable diseases, family planning, the maintenance of standards of medical education, and medical provisions in the Union Territories. Most aid has been distributed through the Plan, under the control of the Planning Commission. One contribution to new possibilities of assistance was the Janata Government decision in 1977 to include maternal and child health in the central tasks of the Family Planning section of the Union Ministry, then renamed 'Family Welfare'. This recognised that much of the basic rural health service was being funded under this head by the Central rather than the State Governments, and also reflected the ambivalence about family planning in the immediate post-Emergency period. It also,

perhaps, opened the way to the new aided projects discussed in Chapter 11.

Health aid must, of course, be seen in the context of overall aid policies, which are undoubtedly perceived by donors as an extension of foreign, industrial, and trading policies designed to benefit the donors. This sets limits on what aid is acceptable to donors, and provides a lever which can be used to prevent other policies of which the donors might disapprove. But it does not thereby mean that the aid which is provided is precisely attuned to the meeting of the interests of capital, broadly defined. It seems more reasonable to argue that the institutionalised form in which aid is given and used is one which permits some freedom for the exercise of professional judgement. This judgement is amenable to reasonable analyses of the major problems and the best ways of dealing with them. These analyses and proposed solutions are of course limited by the scientific and administrative paradigms which are part of the learned environments of the 'experts' involved; but this does not preclude learning from past mistakes, and it is difficult to conceive of a situation in which such limitations could be avoided. The limitations do, of course, have political consequences: they rule out some solutions because of a narrow definition of 'the medical', and these are likely to be the solutions which imply radical changes in the organisation of society. The exercise of professional judgement might only be permitted because the appearance of autonomy is useful to 'global capital' (Johnson, 1978).

But even with all these caveats, it remains reasonable to argue that the pattern of health sector aid to India after 1947 suggests that major threats to health were given priority; that 'appropriateness' did enter into decisions about the training needed; and that the proposed solutions were plausibly connected to the problems identified. On the other hand, the scale and timing of this assistance bears little relationship to the developing needs of health policies and programmes, so that assistance to malaria tailed off just when it was most needed, and the resources put into smallpox eradication did not match its importance as an Indian health threat. Similarly, donor agencies were (are?) unable to redirect Indian priorities sufficiently to ensure that local expenditures take over when assistance ceases. This is perhaps an inevitable feature of the aid relationship, though it also reflects the inability of the Indian Government to control State expenditures in terms of its own stated policies (see Chapter 6 above).

MIGRATION OF HEALTH PERSONNEL

Any discussion of the migration of health personnel from India has to work with data which are highly unreliable. While it can be argued that trained personnel who emigrate 'cost' India a substantial amount, it is almost impossible to quantify this loss, or to see when it occurred, or what trends now exist. There are, in addition, conceptual problems. Since it is argued, with some justice, that it is the very inappropriateness of medical education which makes doctors able to migrate, it is too simplistic to assert that those who do migrate would have made a great contribution to health care in India had they stayed behind. Rather, the migration of doctors and other medical personnel must be seen as a symptom of failures to relate job content and professional training to local needs, and this failure imposes costs which are much broader than the specific

loss of personnel through migration. However, the context for such a discussion should be set by a consideration of what is known of the extent, direction and trends in emigration.

HOW MANY MIGRATE?

The historical roots of medical migration from India were set almost from the beginning of medical education in India, when a group of graduates from the Calcutta Medical College accompanied one of their teachers to London for further training (Johnson and Caygill, 1973). The idea that local education was 'incomplete' rather than 'different' was probably fostered by the staff at the Indian medical colleges, who measured their teaching against standards derived from their own training. Until the First World War candidates for the I.M.S. had to travel to London to take the admission examination, and many took additional qualifications while they were preparing for this. At this period it is probable that few doctors travelled to Britain, and most of them returned to India after relatively short stays - but this has to be conjecture since there is no reliable source of current residence information for doctors. Other sources give some partial idea of the numbers involved; for example 177 doctors with Indian names and coming from India received the 'Triple' qualification from the Scottish colleges in 1900-09, another 83 in 1910-19, 73 in 1922-29 and 43 in 1930-36 (ibid:115).

After the First World War, with travel to Britain quicker and cheaper, more doctors with Indian qualifications were registering with the General Medical Council. By 1939, for example, some 10% of all graduates from Indian medical colleges in 1921-3 had registered with the G.M.C. on the basis of their Indian qualifications. But it is not clear how many of them registered with the expectation of travelling (but not doing so), nor how many more registered themselves on the basis of additional qualifications gathered in Britain. There is also

migration to other parts of the world. Indian doctors probably followed some of the same routes as other Indian emigrants - to Burma, Malaysia, the Pacific Islands and the Caribbean - but it is presumed that relatively few did so. How many went to other parts of the Commonwealth is equally unknown.

How this situation changed with Independence is not clear. As we have seen, major international institutions (Ford, Rockefeller, W.H.O., the Governments participating in the Colombo Plan) began to introduce schemes to take doctors to Britain and America for higher training. No formal count seems to have been made of who went where and when, nor whether they returned. The only evidence available is that from analyses of passport applications (dependent on the occupation listed) and on surveys of the stock in a recipient country at a particular point in time. It would appear that no figures are available from passport applications before 1960, when 1000 doctors were issued with passports; this figure had risen to 2000 in 1970 (I.A.M.R. 1974) Once again there are no guides to the numbers who use these passports to travel abroad, nor for how long they do so.

Estimates of the stock of Indian doctors in different foreign countries become more frequent and more reliable from about the middle-1960's. For example, the changes in the law on immigration to the U.K. meant that after 1962 doctors wishing to enter the U.K. to work had to apply for vouchers; in the next six years nearly 6,400 Indian doctors applied for vouchers and roughly half of these were probably taken up (Johnson and Caygill, 1973:69-70). This total is equivalent to roughly 20% of the output of Indian medical colleges in this period receiving vouchers, with perhaps 10% taking them up. In 1968 a U.N. survey of medical personnel abroad estimated 9,000 Indians, 2/3 rds of them with higher qualifications. Their location was not specified, but a further source - the scheme run by the Indian Council for Scientific and Industrial Research to provide temporary posts for returning migrants - suggests that of the

doctors applying to join the scheme in the six years 1963-69, almost 70% were currently in the U.K. with another 25% in the U.S.A. The U.S. share was much larger towards the end of the period, but we know very little about migration rates between the two countries (Mejia et al, 1979:293; see also Technical Manpower Vol. XV No. 3, March 1973). The earliest data from the U.S.A. concerns a survey carried out by the American Medical Association in 1970, which reported 3,957 Indian doctors, followed by a survey two yèars later which reported 6,303 (Mejia et al., 1979:291). Data on doctors in training schemes in the 1970's showed that India was the largest supplier of foreign medical graduates to these schemes (see Table 5).

TABLE 5

ORIGIN OF FOREIGN MEDICAL GRADUATES ON TRAINING SCHEMES IN THE U.S.A.

	31.12.72	31.12.74	31.12.76	31.12.77
India	2988	3900	4009	2782
of which Bombay	336	397	n.s.	248
Baroda	n.s.	269	n.s.	179
Total F.M.G.s	17,712	22,301	15,097	10,108
(% India)	(16.9%)	(17.5%)	(26.6%)	(27.5%)

Source: Journal of the American Medical Association, Vol 226 8:939; Vol 234 13:1356; Vol 240 26:2837.

WHERE DO THEY GO?

The combination of more-or-less reliable sources of information suggests that the number of Indian doctors abroad in 1970 was 12,000, and in 1975 it was about 15,000 (Mejia et al 1979:277; 291-2). The period of most rapid growth in the numbers

abroad was probably the late 1960's and early 1970's, when the numbers entering the U.K. and the U.S.A. were about 1,000 a year in each case. However, there is very little evidence about the lengths of stay, or the number of doctors who move from one country to another, so that while about 40% of the Indian doctors entering the U.S.A. in 1970 had not come directly from India, we do not know if that was typical or not. Similarly, the data on return flows to India is restricted to the information from the C.S.I.R. scheme mentioned above, and then only for the late 1960's, when on average 220 a year entered the scheme. These figures suggest that, if anything, the 1975 figure of 15,000 abroad quoted above is an underestimate.

Since 1975 the situation has probably changed considerably. The main receivers of Indian doctors, the U.K. and the U.S.A. have both made entry by Indian doctors much more difficult. The General Medical Council in London withdrew recognition from the degrees of Indian medical colleges granted after May 1975, so that thereafter Indian doctors wishing to work in the U.K. would have to pass tests of 'linguistic and professional competence' unless their degrees predated this decision. There would thus have been a phased effect on immigration of doctors from India: in the early tests only about 40% of Indian candidates passed (Mejia et al., 1979:278). In the U.S.A. new legislation was introduced in January 1977 which was designed to restrict the inflow of doctors there, and the effect was probably more rapid than for the U.K. As Table 11 above shows, the numbers of foreign medical graduates in training schemes dropped sharply between 1976 and 1977, and Indian doctors were affected by the same processes. It is likely that current emigration of Indian doctors is smaller than 10 years ago, and also directed towards different destinations - in particular the oil-rich nations of the Middle East and Nigeria. The predominant form of such flows is also more strictly limited, in that doctors are imported on fixed-term contracts, which may or may not be renewed, but which imply no longer-term rights of residence or citizenship.

The emigration of doctors is not something which all medical colleges contribute to. In part this probably reflects both the social origins of the student body and the closeness with which the medical faculty is able to tailor the education they provide to standards current in the West. As Table 5 shows, Bombay and Baroda contribute disproportionately to the numbers in the U.S.A.

WHAT IS THE IMPACT OF EMIGRATION?

The costs of this emigration have been variously assessed. In percentage terms, it seems likely that in both 1970 and 1975, about 10% of the stock of Indian doctors was abroad. In each year, this would have represented about 1.2-1.3 years output from the medical colleges; had these doctors remained, they would have raised the doctor-population ratio from about 2 per 10,000 population to about 2.3 (Mejia 1979:166). India is the largest contributor of emigrant doctors, but several indicators suggest that the impact of this emigration on India is less than that on many other 'exporting' countries. India is 22nd in a ranking in terms of the impact of emigration on domestic stock of doctors, and 29th in terms of the time it would take to replace the emigrant doctors at current level of output (ibid). If the outflow in 1975-80 was reduced because the main importing markets contracted, as suggested above, then the impact will now be even less: the total stock of Indian doctors by 1980 was probably above 210,000, of whom perhaps 17,000 were abroad.

If the impact is measured in terms of the loss of return on the investment in each of these doctors, the calculations produce rather different results. One estimate is that it costs $9,600 (Rs75,000) to educate a doctor, or a cost to India of $144 million for educating its doctors abroad in 1975 (Mejia, 1979:288). It is also possible to estimate the benefit lost to India by a neo-classical economic analysis based on earnings figures, which generated an estimate of $44,000 per emigrant doctor to the U.S. for 1970 (U.N.C.T.A.D., 1975:8).

However, any strictly financial calculation has to take into account the remittances of these doctors back to India (unknown, though remittances in general have been very significant to the Indian economy since 1975) and the employment the doctors would have had if they had not emigrated. In economic terms there is probably a surplus of doctors in India, relative to the ability to pay them at the levels currently accepted by employers and doctors, so it makes little sense to attempt to value the contribution the doctors might have made had they stayed. In addition, the skills of these particular doctors were probably even less appropriate to the tasks needing to be done in India than the skills of those who stayed, so it is possible to argue that Indians benefited more from their absence than their presence. Clearly, it would have been better if other forms of personnel had been trained, or if the individuals emigrating had paid a higher proportion of the costs of their training. But these are all inter-related factors: the demand for medical education (which led to the rapid expansion of medical colleges in the 1960's and early 1970's) was in part fuelled directly by parents who saw the chances of emigration for their children. Emigration has also helped to reduce medical unemployment and to keep medical salary levels higher than they might otherwise have been.

In general, then, the emigration of doctors and other medical personnel from India has had contradictory effects on medical policy-making. Emigration has probably tended to reduce medical unemployment, rather than to create shortages of valuable skills; and it has had unintended benefits in terms of remittances and a reduction in political pressures to increase employment prospects in 'high-technology' medicine. On the other hand, it has fuelled the demand for medical education, contributing to the neglect of the other forms of personnel; it has kept medical salary levels higher than they might otherwise have been; and it has reinforced the pressure for medical education to be organised so that doctors can continue to be

acceptable abroad. The balance on this issue has probably been altered quite dramatically by the barriers to migration which have developed in the past 10 years, but it may be too late: systemic inertia may now ensure that the costs continue to be felt, while the benefits are of declining significance.

PHARMACEUTICAL COMPANIES

Multinational drug companies are obviously powerful. Sixty large pharmaceutical companies dominate the supply of drugs, with about 60% of non-socialist country production in the early 1970's, and these companies are almost all based in one of seven countries - France, Germany, Italy, Japan, Switzerland, the U.K. and U.S.A. (Lall, 1977:22). They are often diversified companies, with interests in a variety of chemical-based industries, and they vary considerably in the range of products produced, in their major markets, and in the kinds of strategies they follow with respect to the Third World (Stoker, 1984:115-8). Three factors, it is said, give these companies considerable influence: the size of the major companies; their apparent dominance over different sectors of the market for pharmaceutical products; and the significance of drugs bills in health budgets. This influence affects the supply of drugs, the type of drugs available and promoted, and the health policies of all countries, but especially those of underdeveloped countries (Khaliq, 1976:5; Muller, 1982; Melrose, 1982; Medawar, 1982).

The major criticisms of the activities of these companies in underdeveloped countries are as follows. To begin with, it is argued that the cost of drugs has been much higher than need be. Companies are able to maintain high prices through patent protection, which reduces competition; through aggressive marketing and using brand names; through control over the supply of raw materials; and by policies which are designed to maximise profits, such as transfer-pricing (shifting profits to low-tax

countries). Secondly, the drugs supplied have usually been designed with the disease-pattern, socio-economic conditions and drugs market of advanced capitalist economies, leading to a concentration on the drugs suitable for sale to the relatively wealthy in urban areas, with far less emphasis on the provision of low-cost basic drugs for common diseases. Thirdly, some companies appear to be less concerned with the interests of patients in the Third World than they are forced to be in some developed countries, failing to show the same concern with accurate prescription and warnings of side-effects and contra-indications. Fourthly, some companies have attempted to stop Governments who have tried to alter this situation, as well as making it very difficult for local companies to be established (Lall, 1977; U.N.C.T.C., 1983).

A number of U.N. agencies (W.H.O., U.N. Conference on Transnational Corporations, U.N. Industrial Development Organisation) have attempted to influence the pattern of drug development, production and marketing and to suggest ways of limiting what they regard as undesirable patterns (U.N.C.T.C., 1979). In particular, W.H.O. has led efforts to encourage countries to draw up lists of essential drugs, to use generic names, and to follow purchasing policies which will cut costs and lead to drug purchases more closely related to dominant disease patterns (W.H.O. 1977). Several agencies have argued for the need to produce more pharmaceuticals in Third World countries themselves, on the grounds that this will lead to a reduction in costs and a greater ability to match health needs and drug supplies (U.N.I.D.O., 1980). W.H.O. also started efforts to control the quality of drugs entering international trade, to remove the possibilities for companies to export out-dated drugs or those banned because of adverse reactions, and to standardise marketing information (W.H.O. 1978). Finally, attempts have also been made to encourage research, development and the training of staff to produce more drugs to help in the control and treatment

of six major diseases mostly found in tropical countries - like malaria and leprosy (W.H.O. 1976).

However, it has become increasingly clear since the early discussions that different Third World countries are not all in the same position with respect to pharmaceutical production and marketing. Thus both U.N.I.D.O. (1978) and U.N.C.T.C. (1983) have produced classifications of production situations, placing countries in one of five or three categories respectively. In both cases India is one of very few under-developed countries in the highest category - and is by far the poorest in this category. Indian companies can manufacture from bulk drugs most of the intermediate products used in the country, and the local chemical industry can make some bulk drugs from simple chemicals. The pharmaceuticals companies also carry out research and development activities of their own. As a result, Indian companies import relatively small amounts of raw materials, and are involved in exporting intermediate products, raw materials and production plants to a number of other countries (U.N.C.T.C., 1983:88-92).

This situation did not, of course, materialise overnight, nor is it free from many of the problems identified for many other countries. In the rest of this section I shall describe how Government policy has contributed to the development of the Indian industry, describe the current position of production and ownership, and some of the problems which remain. Finally I will assess the extent to which the pattern of drug production and its ownership, drug marketing and consumption, has affected health policy and health in India since 1947.

THE PHARMACEUTICALS INDUSTRY IN INDIA

The manufacture of medicinal materials for widespread use is a relatively recent phenomenon, though for a long time practitioners have produced medicines on a small scale for their

own use and sometimes for sale. In India, raw materials were shipped to Britain for processing in the 19th century, and the first substantial production locally was in Government factories in Madras and Bombay, for quinine and later for a wider range of drugs (Stoker, 1984:295). Production by Indian capitalists is usually dated from 1901, when P.C. Ray established Bengal Chemical and Pharmaceuticals in Calcutta, and the Alembic company was established in Baroda soon afterwards (Hathi, 1975:16). Few foreign companies had production facilities in India before the Second World War. It would seem that in 1939 only 13% of total consumption was produced in India (Khaliq, 1976:131; Rangarao, 1975:3-4).

The disruption to trade caused by the War made a dramatic difference. There was sufficient basic knowledge and capital available in India that the decline in imports and the growth of Government demand stimulated a large growth in local production. By 1943 this met some 70% of consumption, and the country was nearly self-suficient in some areas like sera and vaccines (Stoker, 1984:296). Production was largely in the hands of a few large British and Indian companies, who were already established before 1939, but there were also probably many small-scale firms as well.

Pharmaceuticals production in India did not change much immediately after the War, but after Independence the pace of change has been much more rapid. There are three major processes at work: technical change, associated with massive expenditures in the West on research and development; support for public sector production; and public policy with respect to the private sector (to affect the balance between public and private production, the ownership of companies, and attempts to promote the production of certain drugs and to control their prices). I will describe each of these briefly in turn. First I will briefly sketch the development of multi-national pharmaceutical firms.

The modern pharmaceutical industry is largely a creation of the period after 1945, since many of the drugs on which it is based were only discovered or fabricated after 1930. The first major group were the sulpha drugs, developed in the 1930's, followed by antibiotics, (penicillin and then others), discovered and produced in the 1940's. By the early 1970's some 30,000 drugs were estimated to be available, some of which were little more than variants on others, and some 8,000 were regularly prescribed (Stoker, 1984:88). Most of these are 'new', and have been discovered in laboratories run by the larger firms, with their production processes patented not only in the country of origin but elsewhere as well. The research and development expenditures for these drugs are often considerable, and companies point to these costs to justify controlling production and prices through patents in order to gain sufficient profits to recoup their investment and pay for new research. However, critics suggest that many 'new' drugs are really little more than minor variations on existing patented drugs; and that the process of technical change is artifically managed in the interests of maintaining higher profits (Lall, 1977:25). One particular feature of the medical market in many parts of the world reinforces the companies' ability to do this. Most drugs are purchased on the advice or prescription of a doctor, and pharmaceuticals advertising and marketing is thus focussed on the doctor, not on the final 'consumer'. In general, the cost of a drug is not very salient for doctors, and other considerations (including the perception of 'quality') may be more significant. The attempts by Governments to affect prescribing patterns are also hindered by the desire of doctors to maintain clinical freedom of choice, based on their own assessment of the drug which will suit the individual patient.

The extent of technical change is thus probably exaggerated by figures on the numbers of drugs, or by assessments of clinical prescribing patterns. Nonetheless, technical change does favour large producers over small, and helps to create a market which is

divided into a very large number of small sub-markets in which competition may be artificially restricted, and production runs are small. All these make it difficult for many countries to organise local production in order to replace foreign imports, or to support local producers against the competition of foreign multinationals.

In India, several factors have combined to make the impact of technical change in pharmaceuticals production different from that in other countries in the Third World. To begin with the existing production capacity had already been developed during the Second World War, both by Indian and by foreign producers. Secondly there is the size of the market, in which the absolute numbers of consumers with substantial purchasing power makes them a profitable market, despite the fact that they may make up only 5% or so of the total Indian population. But in addition, the existence of public sector drug companies, and of an active Government policy towards foreign-owned companies in general and pharmaceuticals companies in particular, have tended to reduce the effect of this pressure.

The public sector has been involved in drug production in India since the 19th century, but post-Independence India took this involvement to a greater depth. In 1951 a Penicillin Enquiry Committeewas established, which 'marked the beginning of Government entry in the modern drug manufacture' (Rangarao, 1975:4). A Pharmaceutical Enquiry Committee reported in 1954 in favour of the creation of large-scale public-sector manufacturing of penicillin and other drugs, in order to reduce prices and conserve foreign exchange (Hathi, 1975:54). Following this proposal there were considerable negotiations between the Indian Government, Western firms and the Soviet Union, described by Kidron (1965). It would seem that Western commercial interests used diplomatic and other pressures to ensure that technical advice for Hindustan Antibiotics Limited was purchased from them at higher prices and with less control over technical data than

the U.S.S.R. was offering. The reason announced publicly was 'technical superiority', but the extent of diplomatic pressure exerted suggests that technical considerations were not the only ones involved. However, the second public sector company, Indian Drugs and Pharmaceuticals Limited, was based on Soviet advice, but completion of its major plant in Hyderabad was delayed until 1968 (Stoker, 1984:320-6).

Public sector production of pharmaceuticals has not been impressive. The two main companies involved have had considerable production difficulties, and have been unable to produce as much as they are licensed for. Profitability has been lower than for most foreign and many private-sector Indian companies, with H.A.L making a loss for much of the 1970's, whereas foreign-owned companies routinely make a higher profit than the averages for Indian industry (Stoker, 1984:304). Nonetheless, by 1980 the public-sector companies were producing about 26% of bulk drug production, and 6.5% of formulations (U.N.C.T.C., 1983:88). But it may be that Government production has had more political significance, demonstrating that the Indian Government is prepared to reduce its dependence on imports and on foreign-owned companies. In addition, I.D.P.L. is now in a position to export technology on a wide range of drugs, mostly to Middle Eastern countries, as are several private companies, suggesting that a significant technical barrier has been overcome (ibid:89).

The Government has also attempted to control the private sector by influencing the terms on which foreign multinationals are able to work in India. Thus in the 1950's, high tarriff barriers and other restrictions on the import of finished goods led most companies to establish manufacturing plants within the country. However, this was mostly for formulations, with the bulk drugs being imported: only after 1970 did the Government of India award production licenses on condition that there was a commitment to some production of basic drugs: as a result, the foreign sector share of the bulk market rose from about 11% in

1972 to about 40% in 1980 (Stoker, 1984:308; U.N.C.T.C., 1983:88).

In 1970 there were also changes in the protection afforded by patents, with the period of patented protection reduced to 7 years and compulsory licensing of production by other companies after three years. At the same time the Government also moved to systematise the control of drug prices, introduced in 1962 at the time of the war with China. A Drug Price Control Order was issued in 1970, setting maximum prices for 17 bulk drugs and attempting to control the prices of formulations by limiting 'mark-ups'. In addition, the 1973 Foreign Exchange Regulation Act (F.E.R.A.) stipulated that foreign equity must be reduced. Drug companies were originally placed in the 'core' sector and excluded from these controls (Stoker, 1984:309) but by 1978 policy had hardened and most companies had to dilute their shareholdings, with only two (Roche and Parke-Davis) being allowed as much as 74%, the rest being restricted to smaller shares (ibid:310-11). There is no evidence that the expansion of shareholding has influenced policy or made these companies more accountable to Indian pressures, but companies regarded in this way as 'Indian' find it easier to get licences for new production (ibid.).

These pressures on drug companies in general, and foreign ones in particular, were strengthened by the Hathi Committee, which reported in 1975. This committee proposed some unexpectedly radical measures, including the nationalisation of all foreign drug companies, the establishment of a National Drug Authority, the phased abolition of brand names, and a change in the form of drug price control (Hathi, 1975:84-5, 96, 104, 180-88, 257). The Report provoked a heated debate over the next few years, complicated by the change in Government in 1977. The most radical proposals were watered down under strong lobbying from the drug companies and the medical profession: there was no similarly well-organised support for the proposals (Hasan, 1980). The one partial exception is that the organisation representing the

larger Indian firms (Indian Drugs Manufacturers Association, I.D.M.A.) supported the nationalisation of foreign firms, believing that this would improve their market position. The New Drug Policy which emerged in 1978 took a markedly less forceful line on foreign ownership (allowing the maintenance of equity holdings above 40%), on the removal of brand names (making the process more gradual) and on the National Drug Agency (not created, but replaced by a number of smaller statutory bodies with fewer powers)(Stoker, 1984:366). On the other hand, some of the price control, research and development, and production policies were more far-reaching than Hathi had proposed (ibid.).

Political debate did not, of course, cease with the issuing of the policy document and the passing of a new Drug Price Control Order in 1979. The introduction and implementation of several elements of the proposals have been delayed, or seem to have failed to have the desired impact. Thus legal moves by companies have delayed the abolition of brand names, and foreign companies have claimed that the New Drug Policy has led to a decline in the growth of drug output, because of uncertainty and poor profitability as companies have lost some elements of market protection (U.N.C.T.C. 1983:50, 91). However, for my purposes I want to concentrate on answering three questions:

a. how far do foreign companies now dominate Indian pharmaceutical production?

b. how far does the structure of Indian drug production hamper the development of appropriate health policies, and to what extent can this be traced to the impact of the foreign producers? and

c. what evidence is there of other ways in which drug companies (Indian or foreign) have intervened in health policy formulation, and with what effect?

A: FOREIGN DOMINATION

A simple indicator of foreign domination (but one which is nonetheless difficult to construct) is that of the share of production. Estimates of total output are not very reliable, because of the large number of very small companies whose reporting is infrequent and likely to be inaccurate. However, the best estimates of U.N.C.T.C. for the production of 'allopathic' drugs and their distribution by major producing category, are given in Table 12.

TABLE 12

PRODUCTION OF DRUGS IN INDIA BY COMPANY OWNERSHIP, 1979-81
(Annual averages, U.S.$ million)

	BULK DRUGS		FORMULATIONS		TOTAL	
Companies:		%		%		%
Foreign-owned	71	(22)	568	(43)	639	(39)
Local private	163	(52)	669	(50)	832	(51)
Local State	82	(26)	87	(7)	169	(10)
TOTAL	316	(100)	1324	(100)	1640	(100)

Source: U.N.C.T.C. (1983:88, 154).

The major weaknesses of this as an indicator is that it takes no account of the sizes of companies in each sector, and it gives no clue to the extent to which the nature of drug production in all sectors has been influenced during an earlier period when foreign companies were more dominant. Thus the foreign-owned sector (in this case defined as companies with more than 40% of equity owned by one foreign company) includes only 26 firms, five of which are amongst the ten largest pharmaceutical firms in India, with retail sales in 1980 of Rs1271 millions, or $163 million, about 10% of the total. The five largest Indian-owned companies had sales of about Rs1004 millions, or $129 million, about 8% of the total (U.N.C.T.C. 1983:152). But there

are very large numbers of small Indian producers - Stoker suggests there are 3,000, not all of which are active (1984:317). In addition, the foreign companies concentrate more of their activities in formulations, where market conditions are more favourable. Thus the market power exercised by the average foreign company is likely to be much greater than that of the average Indian company. One further indicator of this (again, not perfect) is profitability: in the mid-1970's 30 foreign companies reported gross profits of 14.3% of sales, whereas a sample of 12 Indian companies reported gross profits about half that level (Stoker, 1984:304). Finally, there are problems of definition, with some companies defined on these criteria as Indian but with a controlling share interest (say 25% or more) held by one foreign company, and others sharing in production arrangements with foreign companies (at least 26 Indian companies received foreign know-how between 1962 and 1972, e.g. through technical collaboration agreements [Stoker, 1984:341]).

Overall, it seems reasonable to conclude that despite nearly 30 years of attempts by the Indian Government to control the operations of foreign pharmaceutical companies, they are still the most substantial element in the pharmaceuticals market. In addition, they have set the framework for the industry in the period when they were far more influential still. There are several indicators of this. As the U.N.C.T.C. report puts it, 'the product mix of both kinds of firms [local and foreign] tends not to reflect social priorities' (1983:89). Both kinds also have fought to protect the competitive advantages provided by brand names (ibid:91) and in general product information is spread to doctors by an active network of company representatives and by company advertising, rather than by a more 'arms-length' method. All these are typical of pharmaceutical company organisation in advanced capitalist countries, and seem likely to outlast any future declining direct influence of multinational corporations in India.

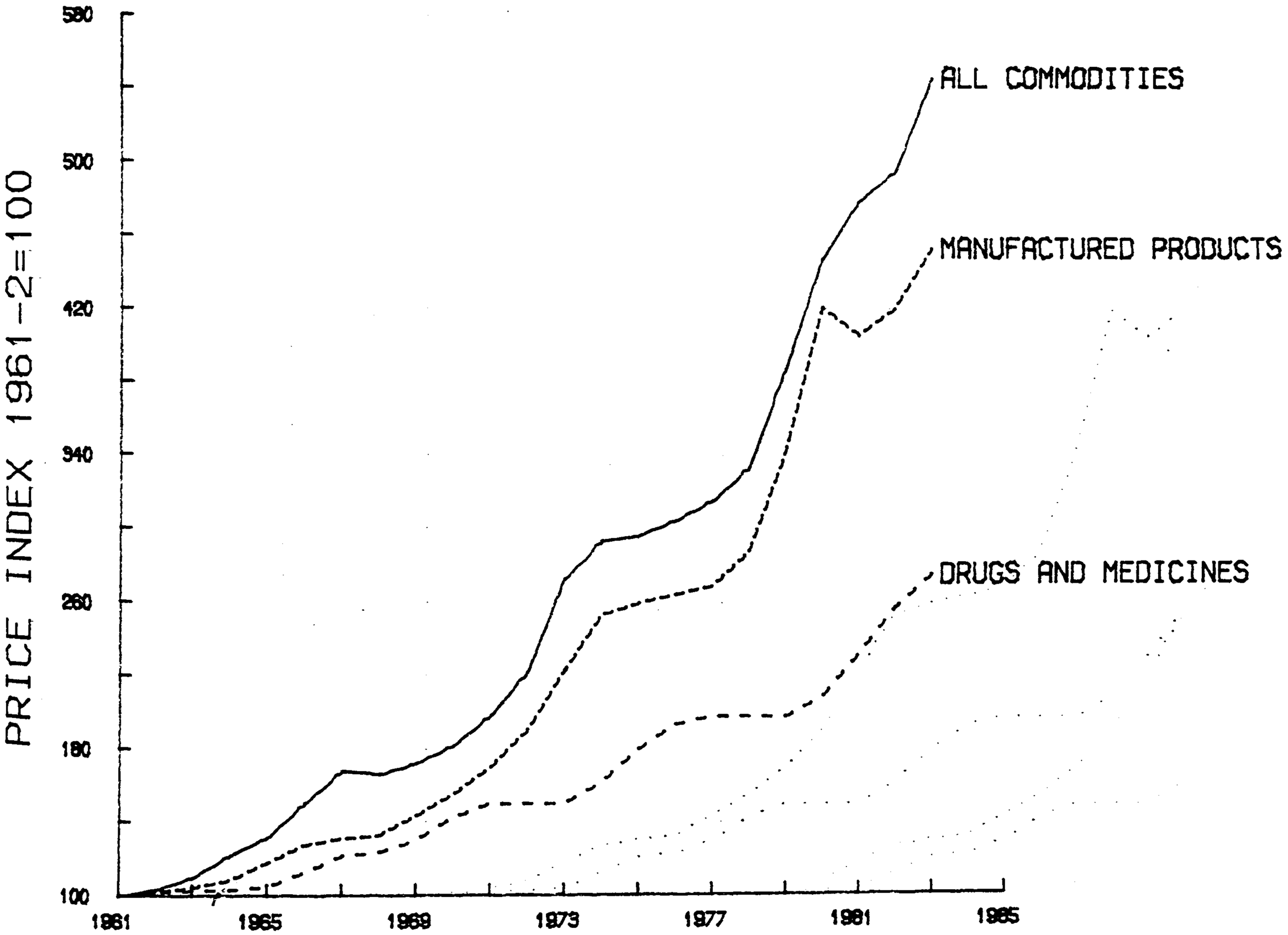
B:DRUG PRODUCTION: THE IMPACT ON HEALTH

The two major criticisms of drug production in underdeveloped countries are that the drugs are too expensive and that the wrong ones are produced and made available. As we have seen, the control of the price of drugs has formed a growing part of Government policies since 1962. However, it is not easy to assess the success of these policies. Certainly, informed opinion before 1970 was that Indian drug prices were high, but it seems likely that they were not as high as in some other parts of the world. In part this was a result of the system of import licences, which reduced the possibility of transfer pricing. Companies were forced to make at least a pretence of justifying the prices they paid for raw materials - with Hoffman-La Roche's ability to overcharge for Librium and Valium a notable exception (Stoker, 1984:378-9). On the other hand, the policy of insisting on production in India as far as possible may have increased general price levels above what they might have been in a world market. The position is complicated by the unknown, but very large number of formulations, often very similar and probably more expensive than they could be if they were all sold by generic names.

The Hathi Commission claimed that prices had declined, relative to world levels and their previous Indian levels, after the introduction of the 1970 Drug Price Control Order (1975:174). The industry has certainly claimed that prices have continued to fall since the strengthening of these controls in 1979 (Stoker, 1984:372). Unfortunately, the only drug prices index in India is probably a poor guide to general price levels, being constructed from common drugs which are out of patent protection. Thus the apparent stability of drug prices shown in Figure 1 may be misleading. Very generally, then, one could conclude that Indian drug prices are probably not notably high, and may well be relatively low, and that this should be attributed to direct Government policy, to the existence of an indigenous

Figure 1

WHOLESALE PRICES, 1961-1983



manufacturing capability in both the public and the private sector, and probably to the size of the Indian market which permits economies of scale and competition which are not always possible elsewhere.

The picture for the product mix of drugs is less satisfactory. As already noted, the U.N.C.T.C. argues that remedies for the diseases which afflict the mass of the population are not produced in the same quantity or variety as those which suit the purchasing preferences of the relatively wealthy (1983:89). Thus vitamin preparations, cough and cold preparations, tonics, and 'health restorers' made up some 25% of all sales covered in one survey in 1978 (Stoker, 1984:399). Furthermore, most of the 'essential drugs' listed either by W.H.O. or by Indian writers on the subject are produced in India, but production is well below both installed capacity and consumption (ibid:404).

In addition, as some have argued, the failure to implement the controls over drug quality, laid down originally in the Drugs Rules (introduced in 1945 on the basis of the 1940 Drugs Act) means both that many drugs remain on the market despite little or no evidence of their efficacy, and that the products of many small Indian producers are of dubious quality (U.N.C.T.C., 1983:89). All the legislation has said nothing about the efficacy of drugs, being concerned only with the methods by which they were produced, standards of hygiene etc. In general, the prime concerns in the development of drug policy have been economic and political - the harbouring of scarce foreign exchange, control over the prices which affect the middle class market, and the nationalistic desire to foster local industries. Policy has been the concern of the Ministry which has included Chemicals, with the Ministries of Commerce, Finance and Industry more closely involved than the Health Ministry. It would seem that drug policies have been relatively uninfluenced by health policy concerns.

In sum, it would seem that drug production has hindered health policy developments by failing to provide basic, crucial drugs in the quantities and at the prices which could be possible. This is as much the result of the structure of the Indian market, and the location of Indian purchasing power, as it is of conscious decision-making by individual companies or the industry as a whole. There is, however, a glaring exception to this generalisation: the activities of some American companies during the establishment of the public-sector companies in 1956. Several American companies attempted to prevent the establishment of sizeable basic drug production facilities outside their control, and may thus have prevented the establishment of a more appropriate structure of production. However, the record of the Indian public sector is such that it is difficult to be sure that much difference would have been made however soon it started production, and on whatever scale.

C:DRUG PRODUCERS: THEIR IMPACT ON HEALTH POLICY

There is very little evidence of attempts by drug companies to affect health policy *per se*. Evidence abounds of their attempts to influence the more narrow sphere of drugs policy itself - to restrict Government intervention, to limit the more radical proposals, with the most obvious examples being their opposition to controls on equity shares (and the extreme, nationalisation) during the 1970's (Stoker, 1984:356-71). Despite the importance of Government purchasing in total drug sales, it seems that most companies have been content to work to maintain or increase the share of this market (through advertising and intensive marketing) rather than to increase the size of the total market by pressing for larger health budgets or a larger share within them of drugs purchasing. Possibly the companies have realised that since Government drugs budgets are totally inadequate to meet the demands of most patients the best contribution to overall sales is through affecting the prescriptions written by Government doctors and purchased by

patients from commercial pharmacists. Alternatively, they have focussed on affecting the distribution of Government drug purchases by bribing those who control the drug purchase committees. But this has to be speculative, since there seems to be very little evidence on this subject.

DRUG COMPANIES: AN OVERALL PERSPECTIVE

The major criticism of the operations of pharmaceuticals companies in India is probably the least tangible: the creation, or at least support in the maintenance, of a perspective on health policy in which technical interventions in the bodies of individuals (using drugs, or surgery) are regarded as crucial contributions to the health of the nation. In looking after their own interests they draw attention away from environmental, social, political and economic contributions to improved health. In this way, they have probably helped to generate a climate in which Ayurvedic and Unani preparations have become seen in the same way, helping to generate the growth of the indigenous pharmaceutical companies along similar lines. Their liaison with doctors is close, but they also spread their products through networks of practitioners without formal qualifications in Western medicine, by competing to offer these people profitable opportunities. Some benefits have undoubtedly been produced by these means: it remains unclear that they have outweighed the costs.

CONCLUSION: THE INTERNATIONAL CONTEXT

I have considered three areas of international impact on health policy in India. In each case, there is evidence to support the claim that the Indian experience does not neatly fit the models derived particularly from 'dependency' analyses. Health sector aid has been concentrated on primary care, particularly the prevention and control of diseases; medical migration has not been sizeable enough to place constraints on health policy-making; and local production of pharmaceuticals has permitted the establishment of controls over the operations of multinational corporations so that their excesses have been curbed. But in more insubstantial ways the international context has tended to support a view of health services which has limited their effectiveness: the dominance of medical education over that for other medical personnel; the greater symbolic importance of individualised drug-based therapies over environmental improvement; and a health sector oriented to international standards and relating rather poorly to the concerns of the mass of the population. In the next two chapters I shall discuss some of these effects in more detail. looking first at policy on medical personnel.

CHAPTER 9
MEDICAL AND PARAMEDICAL PERSONNEL

The discussion of patterns of expenditure on health services, which formed the basis of Chapter 6, gives little impression of the impact of the money spent. This chapter, and chapter 10, will discuss the **proximate** consequences: firstly in looking at the numbers and kinds of health workers trained and working in India; and secondly in discussing what is known about what work they do, in what kinds of settings. The further question - what impact has this had on the health of the population - has been discussed briefly in Chapter 5, and I will return to it in the Conclusion.

There are obvious problems in looking at the numbers of people trained in different health skills: in particular, we cannot assume that, for example, someone with more training (a consultant cardiac surgeon, say) has more and greater impacts on health than someone with less training (as a community health worker, say) because these skills may be imperfectly learned, or irrelevant to the major sources of illness, or based on inadequate knowledge, or used unsatisfactorily. Similarly, new buildings do not necessarily provide better conditions for care or cure than do old ones.

This chapter will not address these issues, but will leave them on one side for reconsideration in the conclusion. Here I shall be concerned with how many people have been trained, in which categories, and at what times. To begin with, I shall discuss the factors which seem to have affected the balance of personnel trained - not just the policy debates but also the constraints from outside the Government sphere; and then take each category in turn to see what has happened to the staff so trained - who has employed them, under what kinds of conditions, and so on. The underlying reason for looking at these kinds of data remains the attempt to answer some of the questions outlined

in the Introduction: to what extent can policy decisions about health personnel be understood as the outcome of the interplay of class-based interests? To what extent does it make more sense of the material to include the role of ideas (existing models of desirable patterns of health services) and of cultural factors more generally (such as views on the polluting nature of 'nursing'), even if these in their turn depend in part on the structure of Indian society? These issues will be addressed at the end of this chapter.

THE BALANCE BETWEEN DIFFERENT CATEGORIES

It is clear that over the past 35 years India has seen a dramatic expansion in the number of medical and health-related personnel, and in the variety of specialised positions which have been developed. But some categories have grown faster than others, and a discussion of the contribution of policy to this balance must be set in a broader context of the Government's ability to control who has been trained. In addition, some categories have not been trained at all, or not before the late 1970's, and I will also consider the debates over these 'non'-personnel.

To begin with, it is possible to see two different types of health workers - those for whom there exists a private as well as a public market (in particular, doctors) and those who are virtually dependent on public sector employment - though the categories are not clear-cut and unchanging. This relates to different kinds of outcomes: for the first category the Government has largely responded to pressure from potential applicants, whereas for the second changes have resulted more directly from Government recruitment policies. It might be expected that, as a result, attempts to achieve a desirable mix of health personnel would not be very successful. In fact, although the number of doctors trained has routinely exceeded the

planned expansion, the number of paramedical personnel has grown much more quickly, though in a more discontinuous fashion.

Official plans, of course, assume that only trained personnel are of relevance, and that those trained actually practise what they have been taught. But substantial numbers of people have acquired some form of training unofficially (e.g. as assistants to doctors, or by correspondence course) or have received one form of training (e.g. as an Army medical orderly, or as a pharmacist) but practice in a different capacity (usually as an independent practitioner). There are no worthwhile estimates of the numbers involved here. The inclusion of the training of personnel outside the allopathic system introduces yet further complications. Training in indigenous medicine has been solely for the equivalent of doctors - there are now several degree and diploma courses for Ayurvedic and Unani practitioners, but not for supporting personnel. This reflects the absence of Government demand for such workers. However, many of these graduates attended courses with substantial 'Western' components, and even those from 'pure' indigenous courses may actually practice using the allopathic pharmacopeia.

The major health policy documents since 1947 have all stressed the need to expand the numbers of allopathic personnel rather than practitioners of the indigenous systems of medicine (including homeopathy); and within the allopathic sector, to increase the numbers of auxiliary personnel more rapidly than doctors. No attempt has been made to define an overall desirable number of indigenous practitioners, nor to set targets for achievement in individual plan periods, and the discussions of allopathic personnel make no reference to any form of integration with indigenous practitioners until the late 1970's. I shall therefore deal with the indigenous sector separately, and here focus on allopathic personnel.

From 1947 or earlier there was a formal commitment to the

need to expand the number of 'non-medical' health workers. The Bhore Committee called for the number of doctors in 1971 to be four times the number in 1941, but it wanted one hundred times as many nurses and health visitors, and twenty times as many midwives. (G.O.I.[C.P.H.B.], 1948:102). The rationale was spelled out in the meeting of Health Ministers and Secretaries in 1946: they can carry out a variety of tasks "under the direction and supervision of doctors" such as inoculations, anti-malarial work or sanitation; they are cheaper to train and employ; and they are more suited to work in the rural areas (ibid). This emphasis was repeated in the Five Year Plan documents. The First Plan specified nurses, midwives and dais (traditional birth attendants) as categories which could be trained more rapidly in existing institutions (G.O.I., 1951:203), while the Second Plan noted that "shortages in personnel other than doctors have been more marked and are likely to persist longer than in the case of doctors" (G.O.I., 1956:538). Similar sentiments are expressed in the succeeding Plans.

The practice was slightly different from this. To begin with, the discussion of the problems of training more doctors always precedes that of the other categories. This symbolic precedence was matched by a financial precedence: policy-makers accepted the argument that medical education must be expensive, in order to maintain 'standards' (see further below), and therefore financial allocations favoured the medical colleges over paramedical training. The financial balance between the two is difficult to establish very precisely. The Planning Commission has usually included the two together (along with research), distinguishing the outlays under the two heads only in the Second, Fourth and Fifth Plans, and the Draft Plan for 1978-83. In these Plans, Medical Education and Research was allocated between four and seven times as much as Paramedical Training. Actual Plan expenditures are only available for the Fourth Plan, when an outlay imbalance of 6.5:1 in favour of the doctors (Rs653 million to Rs129 million) was translated into an expenditure

imbalance of 10.8:1 (Rs790 million to Rs73 million)(G.O.I. 1969; G.O.I. 1975:22). These are, of course, only a partial guide to actual public expenditure: Table 1 summarizes the figures for Orissa for most of the 1970's and shows by how much medical education dominates training concerns within the Government when non-Plan expenditures are included.

TABLE 1

ANNUAL AVERAGE EXPENDITURES ON MEDICAL AND PARAMEDICAL EDUCATION AND TRAINING, ORISSA 1972/3 to 1978/9

Rs Millions

CATEGORY	Non-Plan	State Plan	Central Plan	TOTAL	(%age)
Under-graduate	10.8	1.1	-	11.9	(73%)
Post-graduate	1.6	0.1	-	1.7	(10%)
Paramedical	1.3	0.2	1.3	2.8	(17%)
TOTAL	13.7	1.3	1.3	16.3	(100%)
(%age)	(84%)	(8%)	(8%)	(100%)	

Source: Annual Administration Reports, Orissa Department of Health and Family Welfare, Bhubaneswar.
Note: Medical figures exclude expenditures on the Medical College Hospitals. Paramedical figures include expenditures on Regional Family Welfare Training Centres, which also train doctors.

While some reliance can probably be placed on the figures for expenditures, the data for physical targets and achievements, expressed as numbers in practice or in service and summarised in Table 2, are much more uncertain. There are many problems involved in estimating total numbers of doctors, nurses etc. in the workforce: some of these are dealt with in more detail later in this chapter. But in addition, it is rather suspicious that many of these targets appear to have been precisely met; and in some cases it is clear that planners have used 'likely' or 'estimated' figures for 'achievements', when they had virtually no data to go on. Thus as late as 1972 the Directorate of Manpower (sic) said that 'there are no stock estimates of health visitors worked out on a systematic basis' (p46). There are other inconsistencies between the figures produced by different

agencies, and the Planning Commission itself has provided contradictory figures for 1950 and 1955. Therefore, Table 2 should be regarded as only a guide to rough magnitudes and proportions.

TABLE 2

PLAN TARGETS AND ACHIEVEMENTS IN NUMBERS OF HEALTH PERSONNEL

(thousands)

	BASE-LINE	FIRST PLAN		SECOND PLAN		THIRD PLAN		ANNUAL PLANS	FOURTH PLAN		FIFTH PLAN	
	1951	1956		1961		1966		1969	1974		1979	
		Ach.	Tgt.	Ach.	Tgt.	Ach.		Ach.	Tgt.	Ach.	Tgt.	Ach
Doctors	56	65	77	70	81	86		102	138	138	176	178
Nurses	17	19	24	27	45	45		61	88	88	123	113
A.N.M.'s	-	-	-	3		22		34	54	54	n.a.	58
L.H.V.'s	0.5	1	3	2	4	4		4	7	n.a.		8
Nurse-dais	-	6	41	12	40	25		(no further figures)				
S.I.'s		4	7	6	19	18		20	32	33	n.a.	
Pharmacists			n.a.	42	48	48		51	66	66	n.a.	

Notes: In each case these are figures for those estimated to be in practice or in service in the country. In some Plan periods, no physical targets seem to have been set for some categories.
A.N.M.=Auxiliary Nurse Midwife, now Health Worker (Female)
L.H.V.= Lady Health Visitor, now Health Assistant (Female)
S.I.= Sanitary Inspector, including Health Assistants (Male)
Sources: Columns 2,4 & 5: G.O.I., 1961:653; Column 3: G.O.I., 1956:61 538; Columns 6, 9 & 10: G.O.I., 1975:23, except for Col. 6 fo L.H.V.'s, which is from G.O.I., 1964, and for A.N.M.'s, midwives, an nurse-dais, which come from G.O.I. (C.C.H.), 1973:24; Column 8: G.O.I. 1969:291, except for midwives, which comes from Directorate o. Manpower, 1972; Column 11: World Health Statistics Annual 1983.

It is possible, through rather heroic assumptions, to summarize Table 2 in terms of the proportions between different personnel as in Table 3. What this suggests is that the balance of personnel around 1980 was probably far more 'appropriate' (less heavily dependent on doctors) than it was around 1950.

TABLE 3

PROPORTIONS OF MEDICAL AND PARAMEDICAL PERSONNEL

	1950	1960	1970	1980
Doctors	100	100	100	100
Nurses	25	39	60	60
Auxiliary Nurse-Midwives	-	4	35	30
Sanitary Inspectors	6	9	20	-
Multi-purpose personnel (male and female)	not applicable			70

Source: Table 2.
Note: For more detail on multi-purpose personnel, see further below in the section on Feldshers. This total includes Male and Female Health Assistants and Health Workers.

In dealing with the course of proposals and patterns of health personnel I shall reverse the normal order and deal first with Community Health Workers and then health assistants or paramedical workers (mainly male) under the heading of Feldshers, then with nurses of various categories, and finally with doctors, allopathic and then indigenous.

COMMUNITY HEALTH WORKERS

As early as the N.P.C. and Bhore Committee reports it had been argued that the existing categories of personnel might not suit the kinds of tasks which were regarded as the most essential, and that some new categories should be trained. Two kinds of proposals were made: for what we would now call community health workers; and for a medical auxiliary category akin to the Russian feldsher.

The N.P.C. provided as good a description and justification of the potential and role of a community health worker as any to be found in the international policy documents of the 1970's. Because of the dearth of trained medical personnel, the health needs of India could "only be met by training specially a very

large body of men to perform some of the simpler tasks" and "thus the cornerstone of the scheme we recommend is a Health Worker." (N.P.C. 1946: 43) The Health Worker was to be an intelligent young man or woman selected from the village itself, sent for nine months training in community and personal hygiene, first aid, common ailments and simple remedies, and then returned to his or her village to "spread the gospel" (ibid: 44).

> "The health worker will be one of the villagers themselves, only somewhat better trained than themselves. He will not appear to the villagers as a strange imposition of a strange system, but their kith and kin who desires to help them."

The proposal involved retraining after five years, with the prospect that in 20 years some of these workers would be of degree standard. There were several problems with this proposal: no thought was given to the problem of finding trainers; of selecting candidates in villages divided along caste, class and religious lines; of supervising his/her activities; nor of the possible unavailability of women of suitable education and age to meet the requirements and able and willing to attend a long training course away from their home or marital village. Further, the financial implications of the proposal were enormous, involving more than double current total levels of health expenditure just to pay salaries of health workers.

However, the main reason why no attempt was made to implement the proposal was the perspective used in the later (and more official and 'authoritative') Bhore report - which focussed on 'top-down' planning based on health centres manned by doctors and ancillary staff. In addition, several States were running schemes to encourage doctors to settle in rural areas, using subsidies for the establishment of dispensaries, or offering honoraria. There were also arguments about whether to continue the training of licentiate doctors (see further below) on the grounds that they were more willing to settle in rural areas (though there was no evidence for this); and supporters of

indigenous systems of medicine also argued their case in part on the same lines. The issue of rural medical relief was thus sidetracked into discussions in three directions, and away from the idea of a new category of worker at the village level. The concept of the Health Worker fell because it was argued that the villagers should not be offered an inferior standard of care from that of the towns, and that medical standards in India should be modelled on those of Britain and America (G.O.I.[C.C.H.], 1951:£4).

For whatever reason, it is impossible to find new proposals for village level health workers before the early 1970's. At this time, international thinking on development in general was critical of the previous belief that the benefits of economic growth would 'trickle down' to the poor, in urban or rural areas. There was increasing evidence that the efforts of the preceding twenty years still left most villagers with little access to State medical services, and it was increasingly argued that one reason for this was the slavish adherence to models derived from the colonial period and based on copying structures from the West. In this period the Chinese resort to 'bare-foot doctors' after 1966 received a great deal of positive comment and analysis. The critique of the 'professional' model of health services found a crusading voice in Ivan Illich, who counted in his circle of supporters several well-placed Indians, particularly V.Ramalingaswamy, the director of the All-India Institute of Medical Sciences [A.I.I.M.S.] and J.P. Naik, the Member-Secretary of the Indian Council for Social Science Research [I.C.S.S.R.].

These ideas were brought together in the 1975 report of the committee chaired by J.B. Srivastav (G.O.I. 1975a) on the future of medical education - a committee originally established by the Health Minister (Dr. Karan Singh) as a result of a bruising strike of Delhi junior hospital doctors in 1974. The Srivastav Committee report was presented at a very inauspicious time - the

Emergency had just been declared, and grass-roots political initiatives in general were unwelcome. Further, within a year the whole of the health sector was to be dominated by the attempt to make a dramatic breakthrough in the sterilisation programme. While the Report was accepted, no moves were made to implement it until the Janata Government was elected in 1977. The Janata Manifesto mentioned community health workers, and the new Health Minister (Raj Narain) adopted the proposal as a personal commitment (Leslie, 1981; Joubert, 1985). Unlike the 1938 N.P.C. proposals, the C.H.W. was to be offered training in the indigenous systems of medicine as well as allopathy; and for training purposes an additional doctor was to be appointed at each Primary Health Centre. The course was reduced in length to three months, and the stipend offered was based on the assumption that this would be a part-time activity.

Much to the surprise of many commentators, the C.H.W. scheme was indeed implemented with effect from late 1977. Progress was slower than planned, and was delayed further when Mrs Gandhi was re-elected in 1980. It took several months before the Congress Government was prepared to continue a scheme which was so clearly identified with the opposition, particularly with Raj Narain. Eventually just a change in title (from Worker to Volunteer, or Village Health Guide), a new emphasis on appointing women where possible, and a few other small changes were sufficient to permit the scheme to continue, and efforts were made to complete the training of C.H.V.s for all villages by the end of March 1984.

The chequered history of the C.H.W. has posed some problems for orthodox Marxist interpretations of health policy in India. It is relatively easy to explain the failure to use this means of providing health care prior to 1977: it fits with a model of health service provision which is dominated by the interests of urban propertied classes, allied to the medical professions desire for dominance over the medical division of labour and protection from competition. How then can we explain the change

in policy? It certainly does not fit easily into a 'labour's demands/capital's needs' view of reform: it is not clear that 'improving villagers' health' will safeguard capitalism, and villagers themselves have never articulated a demand for this kind of service. Attempts to dismiss the significance of the scheme (as merely a smokescreen, or designed to buy off demands for a doctor in every village) seem equally unacceptable (though correct as a measure of realism about the uncertain importance of the change). Joubert (1985) argues that this policy is populism *par excellence*, and it seems that a confluence of forces have come together to support the move, of which the emerging 'agrarian populism' and clientelism of the Indian State, the potential for using these workers for population control, and a changing international climate are the most important. I will return to consider these points at the end of this chapter.

FELDSHERS

Proposals for feldshers emerged in the 1950's and 1960's. The first meeting of the Central Council of Health, in January 1953, considered whether to reintroduce licentiate training as a way of solving the shortage of medical personnel in the rural areas. The meeting resolved against licentiates but in favour of medical auxiliaries, and the central government proposed a scheme in 1954 to produce a cadre of people to live "in the midst of the villagers" and trained in environmental sanitation but also able to attend to minor ailments (G.O.I.[C.C.H.] 1954). The discussion was heated, with the major objection being that these people would set themselves up as doctors if they had any curative training. While the proposal insisted that the medical auxiliaries would be under the supervision of a doctor, it was argued that in practice this was highly unlikely: the 'auxiliary' would thus become a 'quack'. Nonetheless, there was majority support, and Planning Commission promised money. But the following year a revised scheme was announced, apparently as a result of pressure applied through the Planning Commission, to

reduce the curative training to the level of first aid only. At this point, the representatives of several States reiterated their belief that the new category would overlap with the Sanitary Inspectors (G.O.I.[C.C.H.] 1955).

Although the scheme did appear in the Second Plan, very few States seem to have followed up the proposal. There seem to have been Health Assistants trained in Nagpur, and in Andhra Pradesh, Bihar, and Rajasthan, (G.O.I.[C.C.H.] 1963:191) and possibly in U.P. (G.O.I.[C.C.H.] 1964:286) and some of these were given jobs as medical officers in Primary Health Centres. The idea was reintroduced in the ninth meeting of the C.C.H., in 1961, as a 3-year course. Once again reference was made to experience in Russia and other countries, and again it was suggested that the new 'health assistants' should work under the supervision of doctors and not be able to set themselves up as independent practitioners - and the same criticisms were made as before. A sub-committee reported favourably the following year, and the matter was discussed again in 1963, when some opposition was reported from the international agencies, who were more in favour of Sanitary Inspectors (G.O.I.[C.C.H.] 1964:284-318). By 1965 W.H.O. and U.N.I.C.E.F. were in favour of the scheme for training health assistants (G.O.I.[C.C.H.] 1966a:70-72) but by 1967 a new version of the scheme was being mooted - for B.Sc. courses in Public Health and in Maternal and Child Health. Finally, in the early 1970's the attempts to integrate the different specialist cadres - Sanitary Inspectors, Family Planning, Malaria and Smallpox workers etc. - began to bear fruit with new proposals which called for Multi-Purpose Health Workers (M.P.W.s) (G.O.I.[C.C.H.C] 1973:368-9). After 1975, when the M.P.W. schemes were joined by the resurrection of the Community Health Worker, and backed by international agencies, there was finally a completely new look to health personnel training in India.

The exact course of these fluctuating proposals, and the reasons for their almost total non-implementation prior to 1975,

are not clear. However, what seems to have happened is that the 'problem' of rural medical relief was seen as the absence of doctors. Discussion and effort thus went into schemes to persuade graduate doctors to work in rural areas, and proposals to use different personnel never received the same kind of support - there was no existing cadre whose training could be expanded. There was no political benefit to be gained from promising villages an unknown, incomprehensible, health assistant, but a the claim to be able to provide a doctor evoked a strong response. The final proposals evolved through two routes, both of which did address themselves to the existing patterns of health personnel - the indigenous practitioners, and the existing cadres of 'uni-purpose' health workers (for smallpox, T.B., family planning etc.).

Attempts to bring the indigenous practitioners into Government service have a long history, which I have already discussed in Chapters 2 and 7. More detail on the post-1947 debates on the role of indigenous healers will be provided later in this chapter. Here I shall concentrate on the major attempt made to integrate indigenous healers as health auxiliaries, made in 1972, during the first flush of the Congress Government elected in 1971 on the 'abolish poverty' slogan.

The 1972 proposals arrived and disappeared very rapidly. As late as the 1971 meeting of the Central Council of Health the 'Master Plan' to provide health services to rural areas followed previous patterns in being based on improving facilities and incentives to encourage staff to serve in rural areas (G.O.I.[C.C.H.] 1972:41-71). After the 1971 elections a completely new set of proposals was introduced, to give substance to Mrs Gandhi's election promises. In 1972 the new Minister of State for Health, D.P. Chattopadhyaya, proposed a 'National Health Scheme for Rural Areas', first announced in the Lok Sabha in May and passed at a conference (not a full meeting) of the Central Council of Health in July. The Government apparently gave

this scheme a very high priority, considering the rapidity with which further meetings were held: in July the Planning Commission approved pilot projects, and the sub-committee set up in July reported in time for modifications to be made in November and a public discussion in December.

The intention was that pilot projects should be started in 1972/3 and the scheme itself in 1973/4. Press comment suggested that the Prime Minister had put her own weight behind this scheme as "an earnest of [the Central Government's] desire to reach (sic) social services to the rural communities" (Statesman 27/7/72). The scheme itself envisaged using the estimated 300,000 registered medical practitioners from the indigenous systems of medicine, to train them for four months in simple treatments from 'Ayurveda/Unani, Homeopathy and Allopathy including first aid' (J.I.M.A. 1973, 2:77) and then employ them at Rs150/- per month, providing them with a Medical Kit with simple allopathic, homeopathic and Indian medicines. In this way it was argued that medical relief and care could be provided to rural areas rather like the way Russia and China had solved similar problems (ibid:76).

But it soon became clear that powerful forces were ranged against the proposals. The Indian Medical Association predictably called it a "cocktail" of systems which would legitimise quackery and discriminate against doctors at a time when increasing numbers were unemployed. The President of the I.M.A. used his position on Planning Commission subcommittees to argue for amendments to the proposal, (I.M.A. [Annual Report], 1971/2). The Planning Commission itself began to suggest problems, such as the difficulty of integrating different medical systems after a short course of training, when there were no trainers who understood all three; and once again it was argued that it would be politically unacceptable to offer the rural population a level of practitioner below that to be found in the towns (Hindustan Times, 1/10/72). In addition, some States opposed the scheme:

Punjab, for example, argued that it had sufficient allopathic doctors, and Rajasthan sponsored discussion of its 'problem of increasing numbers of unemployed doctors'.

This coalition was sufficient to prevent the scheme from being implemented, even in a pilot form. Although Mrs Gandhi addressed gatherings of *vaids* and *hakims* in 1973 and talked of the need to use all available medical resources (J.I.M.A. 1973, 6:211), Chattopadhyay left the Ministry. Without his personal support the proposal died, and the I.M.A. was able to call off its proposed 'Black Day' of action, April 16th 1973. But this was not the last attempt - similar proposals reappeared in 1977 - and the alternative means of producing feldshers was implemented, albeit slowly, over the next five years.

The alternative route to feldshers was through the retraining of the existing paramedical staff. The previous 20 years had seen the expansion of a whole series of categories linked to the so-called 'vertical' campaigns against specific diseases or for family planning. In the mid-1960's it was thought that malaria would soon be conquered and this gave rise to some discussion about what to do with the malaria workers. This 'problem' disappeared with the resurgence of malaria, but the approaching elimination of smallpox reintroduced the issue in the early 1970's. In addition, some argued that the separate campaigns were hindered by their isolation one from another. They were unable to call upon the workers from the other campaigns at moments of urgency (in epidemics, or at seasonal peaks of activity such as spraying against mosquitoes). In addition, there was (if work schedules were conscientously followed) a great duplication of visiting, and time spent in travel was a major source of 'unproductive' time. Thus, it was argued, the full potential of the existing staff was not being realised. The proposed solution was to integrate the different cadres to provide the full range of preventive and public health services, and, after 1977, to include basic curative training as well.

I shall now turn to a more detailed consideration of the expansion of nursing education, which in part complements what I have just said, since the junior nursing cadres - Lady Health Visitors and Auxiliary Nurse-Midwives - provided the sources for the female 'feldshers' under the Multi-Purpose Workers Scheme.

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THE SUPPLY OF NURSES

Compared to doctors, nurses have been systematically relegated to a minor position in the organisation and funding not only of training but also of employment. This is, of course, common to many countries, but the problem is probably more extreme in India. Nurses have a low status in the community. They are mostly women. They are either drawn from marginal or disadvantaged social classes because of the 'polluting' connotations of their work, or from the one group who clearly reject this conception of nursing activities - Christians, mostly from Kerala. They have failed to exert forceful pressure to raise their standing. As a result, key aspects of national health policies (in particular, for maternal and child health) have remained under-staffed and inadequate, despite a frequent formally-expressed committment to increasing the number of nurses and improving the conditions of their education and employment.

Nurse training was not well developed under the British. Nursing for the Armed Forces was largely a male affair, with the first nursing sisters arriving in Bombay in 1888. In 1914 nurses were, for the first time, recruited in India for military purposes and were formed into an Indian Military Nursing Service in 1927 (Wilkinson, 1958:11). Nursing schools in Government Civil Hospitals were established in the 1870's (in Madras) and the 1880's (in Bombay and Calcutta). In Bombay, Poona and Calcutta the early nurse training was done by Anglican Sisters, and mission hospitals trained more nurses than Government hospitals did, also using European or American nurses as trainers.

Nursing students in Government and mission hospitals were originally 'Anglo-Indian', and later mostly Indian Christian girls (almost the only groups willing to become nurses until quite recently). Nursing education was increasingly standardised after 1909, when mission hospitals in North India established a common examining board (ibid: 32). In the 1920's the first steps were taken to establish a category of Lady Health Visitors, whose focus was to be on public health work (Seal 1975:433). A Trained Nurses Association of India was established in 1922, bringing together two regional associations, and Acts to register qualified nurses were passed, first in Madras in 1926 and by 1939 in most Provinces (ibid; Nandi, 1981:158).

At Independence, there were two categories of registered nursing personnel - about 15,000 general nurses, who might also have a midwifery qualification, and some 500 Lady Health Visitors. There were also traditional birth attendants - *dais* - some of whom had received some training and might be employed as subordinate nursing staff (see further below); and an unknown number of others doing duties which could be defined as nursing.

The Bhore committee recognised that the nursing situation in India was totally unsatisfactory. It pointed out that conditions for nurses were "deplorable" (G.O.I. 1946, II:386), and went on to list what it saw as the main problems: no professional status (by which it meant gazetted rank in Government service); low pay for senior nurses; understaffed hospitals leading to overworked nurses; deplorable living conditions, diet and leisure facilities; and no pension rights. The Bhore report argued that all of these were within the power of Government to remedy, but even so, it was not hopeful that enough women would come forward for training to meet its long-term goal of one nurse for every 500 population. In marked contrast to its view on doctors, the committee proposed two grades of nurse - junior and senior - with the addition of nursing degrees as soon as possible, and

specified the proposed curriculum, standards of training centres and so on. Almost as an afterthought, the Committee refers to male nurses, notes their role and the difficulty of recruiting men to nursing while pay rates were so low, and suggests that an expansion of the number of male nurses for male wards will release the female nurses for other work - presumably (though this is not stated) female wards and out-patients.

One indicator of the low priority of nursing is the very poor quality of information about how many nurses there are, or what kind of work they are doing, and this makes it very difficult to assess the significance of changes since 1947. The study carried out by the major organisation of voluntary hospitals in India, the Co-Ordinating Agency for Health Planning, notes that the Indian Nursing Council registered only 87% of the general nurses trained between 1951 and 1971, 69% of L.H.V.s, and 62% of A.N.M.s but the Census errs in the other direction by including 'untrained and unqualified self-styled nurses' (C.A.H.P. 1975:9). In addition, double-counting is a serious possibility, since recruitment to higher grades has often been from the ranks of lower ones. Using the results of a 2% sample of registered nurses, figures for graduation from nurse-training institutions, and estimates of mortality, migration, and 'pre-retirement resignations' the C.A.H.P. study estimated a nurse population in 1971 as in Table 4.

TABLE 4

STOCK OF NURSES AT THE END OF 1971

Category	After estimating loss from mortality	After estimating loss from mortality, migration retirement and resignation
General Nurse		
Male	4,231	3,977
Female	68,377	64,275
A.N.M.s	44,172	41,522
L.H.V.s	6,414	5,914

Source: C.A.H.P., 1975:10, 14.

The C.A.H.P. study also provides one of the few estimates of how nurses experience interrupted work careers if they marry. Based on an admittedly small sample, they suggest that about 11% of all nursing personnel were not currently in work, for 'temporary' reasons, while another 2.5% regarded themselves as 'permanently' out of the nursing workforce (ibid.:12-3). Medical administrators resist the appointment of married nurses jointly with their husbands if they are also employed by the Health Department, because this reduces their freedom to use job transfers as the main means of disciplining staff - but it is also not clear how many nurses might return to Government employment if service rules were to make their employment more compatible with their marital obligations. In general, little reliable information exists about the numbers of trained nurses of different grades who are in employment, or might be available for employment. The C.A.H.P. survey found most of its L.H.V. and A.N.M. employed respondents working for the Government (97% and 85% respectively) but far more General Nurses in Church-related (31%) or private (13%) employment. The Report also suggested that estimates of 'unemployed' nurses, provided by the Ministry of

Labour, were probably highly unreliable. These estimates included large numbes of male A.N.M.s and L.H.V.s (!), and many employed staff nonetheless register as unemployed, in the hopes of bettering one's position (C.A.H.P. 1975:19-21).

The most basic level of nursing worker has remained the **dai**, the nursing orderly and the **ayah.** Virtually nothing is known about who they are, how many there are, what tasks they routinely carry out, what education they have and so on. As we shall see, there are relatively few trained nurses for hospital and health centre work, and so much of this is carried out by these untrained personnel. Only in the case of the **dai** has there been any attempt to provide training. The Bhore Committee accepted that this category, however undesirable, would inevitably remain necessary for a period, and it described a successful training scheme from the North-West Frontier as a model (II:398-402). The Bhore Report did not propose the replacement of the indigenous midwife by trained birth attendants from outside. Instead, it suggested the improvement of the methods used by **dais,** by offering help and advice particularly to the "younger women of the **dai** community" (ibid: 402). Such women were indeed employed in P.H.C.s as Trained Dais during the 1950's, and many are still in post today - though once again there are no national estimates. They were replaced by A.N.M.s in the 1960's, but more **dais** have been brought into Government service since 1977 as assistants to A.N.M.s working in sub-centres.

This move has been part of the shift in orientation of health services described above. In the case of the **dais** it has involved attempts to train at least one from each village, to a total of 1:500 population, over a 3 week training course held at a local sub-centre. This target has been achieved, though the longer-term goals of maintaining contacts and supervision are less likely to be reached. The **dais** are not employed after training (except for perhaps one to help the A.N.M.), but they are offered a small inducement to report women who are pregnant

to the A.N.M. to allow for ante-natal visits. No assessment of the **dai** training programme nationally has been published, but reports from U.P. suggest that very few **dais** there, trained or untrained, have any regular contact with any health personnel (N.I.H.A.E., 1980; Jeffery, Jeffery and Lyon, 1984b). It is probably a result of the fear that **dais** have that they will be involved in family planning activities, which reduces contacts to a low level. This will be discussed in more detail in Chapter 10.

For the more established grades of nurses, there have been two main changes in the course of the last 40 years. One substantial new category has been introduced - that of the Auxiliary Nurse-Midwife - and nursing colleges have been established, and have trained staff for a number of positions as nurse-tutors, public health nurses and so on. Table 5 summarises the available data on numbers in each of the larger categories.

TABLE 5

STOCK AND SUPPLY OF NURSING PERSONNEL

	1951	1961	1971	1981
Graduates	100	385	1,100	
(Annual outturn)	(21)	(43)	(108)	
General Nurses	17,000	35,000	72,600	115,000
(Annual outturn)	(1,105)	(2,663)	(5,778)	(5,000)
Health Visitors	500	2,475	6,400	
(Annual outturn)	(55)	(369)	(377)	
A.N.M.s	-	6,550	44,000	
(Annual outturn)	-	(2,085)	(5,036)	

Source: For 1951, 1961 and 1971 figures, C.A.H.P., 1975:10-16. For 1951 and 1961 I have taken the out-turn figures quoted there, added to the estimates of stock in 1950, and adjusted downwards by 2.5% to allow for mortality (probably an over-estimate, especially for A.N.M.s, a young group especially in the early years), and rounded. G.O.I. (1972) estimated the stock of general nurses in 1971 at about 70,000, of L.H.V.s at 6,000, and of A.N.M.s at about 45,500.
Note: Stock here refers to out-turn figures adjusted only for estimated mortality.

A.N.M. training was introduced in 1952 as a way of expanding the number of junior nurses, mainly for public health work: their two-year courses accepted women with eight years of schooling. By contrast, the general nursing course takes three-years, with a minimum entry requirement of ten years of schooling. A.N.M.s are also less well-trained than the Bhore-proposed 'junior certificate' nurses would have been.) The numbers of A.N.M.s qualifying rose steadily until 1970 but since then they have varied from year to year according to the estimates by State Governments of the number of jobs they will have to offer the successful candidates. Thus in 1968 there were about 10,000 admissions but in 1970 this figure dropped to about 7,750 because some States closed down training institutions, believing that they had a surplus - and only about 500 new posts were filled in the two years 1969-71 (G.O.I. 1972:49-52). The original target was to provide one A.N.M. for every 10,000 people, and this was approximately achieved in most States by the mid-1970's. Since

1977, with the move towards multi-purpose health workers, the A.N.M. has provided the bulk of the new category Health Worker (Female); and current attempts to meet targets of 1:5,000 population (with 1:8,000 as an interim measure) have led to a reopening of training schools.

Matters have been complicated still further by the role of the Central Government, through the Family Planning programme. The A.N.M. has family planning as well as health responsibilities, and therefore some of the training schools have been established and funded by the Central Government, and some by the State Government. Some A.N.M.s (not necessarily those trained in Central Government institutions) were then employed under the family planning programme, on funds from the Central Government, on slightly better terms than those under the maternal and child health programme, on State Government funds. Under the multi-purpose scheme, terms and conditions should be equalised: even though the variation in background and training of the A.N.M.s is small, this process has been long drawn-out. For the male workers it is far from reaching a resolution.

In the field of public health nursing, there are two cadres of nurses. The first, established in the early 1920's in Delhi on the model of health visiting in the U.K., is the Lady Health Visitor (L.H.V.). The second is the Public Health Nurse (P.H.N.), an additional one-year qualification available to nurses or to L.H.V.s, introduced in the 1950's. The Bhore Committee was scathing about L.H.V.s, saying that none of them were "rendering that type of service to the individual, family and community which is considered necessary in health programmes today" (G.O.I. 1946, II:394), and it called for the establishment of P.H.N. training, but the category has not been popular. There were few posts for P.H.N.s until the late 1970s and no obvious benefits to a staff nurse from undergoing the training. For example, before 1975 there were only two sanctioned posts for P.H.N.s in the Orissa Government service, though there were apparently nearly 50

women with the qualification available (I.I.M. 1980:34). The main category of public health nurses has thus been the L.H.V., now retitled Health Assistant (Female) under the Multi-Purpose Scheme. Their position has been very unclear, with two States' Nursing Councils (in Madras and Kerala) apparently having no such category. The Planning Commission has argued that the estimates of stock are so unreliable that it has not given any (G.O.I. 1972: 46-7).

The first courses for senior nurses, and for degrees in nursing began in the 1940's. A Nursing College was formally established in Delhi in 1946, the inheritor of intensive training programmes created during the Second World War as a result of the demand for administrative nursing staff in military hospitals. Courses for nurse-tutors and nursing administrators were also held in Madras and Vellore before Independence, and after 1947 there has been a considerable growth in such courses. Those trained on these courses have gone on to take up most of the senior nursing positions, with holders of nursing degrees most likely to progress within the administrative hierarchy. However, there are strict limits on their chances of wielding any significant power. There are very few high positions and in all cases the nurses remain subordinate to doctors.

Policy towards the nursing categories has thus been contradictory. On the one hand, with support from Western and international agencies, there have been attempts to professionalise nursing by lengthening training courses, establishing nursing colleges, and providing new posts for career nurses. On the other hand, the nurses have remained divided into separate cadres (unlike the doctors) and have failed to gain any substantial support in their everyday attempts to raise their position and to overcome the 'polluting' legacy attached to their work. As women, most nurses remain very vulnerable to sexual harrassment if they are unmarried or separated from their husbands. Nursing education has remained unequal to the task of

providing women with the self-confidence which marks women doctors, probably because the recruits have not come from high enough social backgrounds. There has been no tradition of elite women going into nursing. It remains to be seen whether there will be any material change as female education improves, and the value of female employment changes. This is, perhaps, the feature which most sharply distinguishes nursing and medicine: nurses have to be employed, whereas doctors can earn a living in their own clinics as well as in Government or private employment. I will now consider the difference this has made to policy on medical education.

THE TRAINING OF DOCTORS

Medical education has been affected by three kinds of pressures. To begin with, the Indian elite has attempted to ensure that its doctors are the equal of those elsewhere in the world, and able to supply them with medical services similar to those available to the elites of other countries. Secondly, the elite has demanded access to medical colleges for its sons and daughters, and has therefore pressed for a steady expansion in the numbers of colleges and their intakes. Thirdly, the medical establishment has attempted to relate the numbers and kinds of doctors being produced to their perception of India's needs. These pressures obviously generate conflicts, and it is the resolution of these conflicts which underlies the patterns which have emerged.

The insistence on 'keeping up standards' was carried over from colonial policy proposals from before the Second World War. The major medical-political cause of the inter-War period was precisely on this issue - the maintenance of the recognition by the General Medical Council in London of Indian medical degrees. In order to achieve this the Government of India established a Medical Council of India in 1933 which excluded from its

registers the holders of 'inferior' qualifications (i.e. those not recognised in London as adequate for British registration). In this way the All-India council differed from its Provincial counterparts, who registered all those with Western medical qualifications. Even the political doctors of the Indian Medical Association who opposed the founding of the M.C.I. were prepared to work within it and to follow policies designed to maintain international recognition. This had two consequences: an acceptance of the long-term desirability of raising the standards of licentiate qualifications to degree standard; and an opposition to any involvement of indigenous practitioners in Indian medical colleges.

The Government of India's leading medical advisers - British and Indian - won general acceptance of the phasing out of the medical schools in 1938. The existence of large-scale medical underemployment was used to counter the arguments of those who were unhappy about the inevitable consequence of reducing the numbers of doctors trained every year. Over the following eight years several medical schools were closed or up-graded to medical colleges, but the process was not complete when the Bhore Committee submitted its report.

The Bhore committee endorsed this policy in 1946, though not without some dispute amongst its members. The final report argued that the country should focus its limited resources on the training of only one kind of doctor "and that the highly trained type of physician whom we have termed the 'basic doctor'" (G.O.I. 1946, IV: 60). However, six members of the Committee argued that, because of "the overall shortage of doctors", this policy should not be implemented immediately but that the training of all types of medical personnel should be expanded as fast as possible (ibid). The majority view won the day and the policy was finally implemented during the first 10 years after Independence. However, the issue has not disappeared: as I shall show later, prominent non-medical policymakers have continued to argue the

desirability of a lower level of medical personnel to meet rural needs - and in the early 1980's the West Bengal Government attempted to produce a three-year trained doctor for this reason.

Pressures for 'raising standards' were not abated by the abolition of licentiate training, but were then channelled into attempts to ensure the second basis of international recognition - freedom for Indian medical colleges from any taint of Ayurveda. The 1948 Central Provincial Health Board meeting had a note from the Government of India to the effect that they should consider whether "the establishment of higher and more desirable standards in existing colleges" was not more urgent than expanding the output of doctors (G.O.I.[C.P.H.B., 1948:98). This was part of the response to the Chopra committee report, which was submitted in 1948 and which had proposed that all students of medicine should be taught both the Western and Indian systems. However, the 'modernisers' in Government - including the Prime Minister, Nehru, and the Health Minister, Rajkumari Amrit Kaur, followed the advice of the allopathic doctors in the Ministry, especially K.C.K.E. Raja and A.L. Mudaliar (G.O.I.[T.H.M.C.], 1950:31-3).

Raja, then Director-General of Health Services, reported to the Third Health Ministers' Conference in 1950 that there was a real danger of confusion, since the various systems were not reconcilable, and he brought in the country's obligations to the W.H.O. to support his argument that all medical practitioners should have allopathic medical degrees first, and should then be free to specialise or practise in an Indian system if they wished (ibid:15-30). This was a line also promoted by Nehru in his speech to the conference, pointing to the British system as a model (ibid:6-7).

A.L. Mudaliar, later tc chair the major review of the development of medical services in India in 1959, was prominent in his support of the abolition of licentiate training before the War. As a member of the Bhore committee, and chairman of its

Professional Education Advisory Committee, he embodied a major link between medical policy-making before and after Independence. He was appointed chairman of two committees in 1948, one to draw up plans for an All-India Medical Institute (eventually the All-India Institute of Medical Sciences, or A.I.I.M.S.) and the other to strengthen existing teaching departments. He argued at the first meeting of the Central Council of Health in 1953 that the undergraduate education at A.I.I.M.S. should be "along the most modern lines that are accepted in International circles"; and

> "It is very important for us to realise that we must look to international standards. .. When it comes to a question of helping in the cure of the sick and the general welfare of the community you cannot afford to forget international standards or lower your standards below the international level. If you do that, you will be the worse for it" (G.O.I.[C.C.H.], 1954).

The major issue which dominated policy in the 1950's was how to produce more doctors without compromising on this minimum level, defined as 'basic' by the Bhore Committee - that is, an internationally-acceptable M.B. B.S. degree.

The Bhore Committee also established a tradition of defining medical need in terms of a doctor-population ratio. This procedure has a number of well-established weaknesses. It tends to assume away the impact of the uneven distribution of doctors - that is, the national average can be reached yet many areas may have very few doctors while others have an apparent surplus. It tends to ignore differences among doctors, (e.g. by specialisation, or linguistic limitations) so that there may be shortages of some kinds and surpluses of others. It also tends to ignore the role of other medical personnel, by focussing on doctors rather than (say) the provision of clinical care. In this way it draws attention away from alternative providers of care (trained or untrained in allopathic medicine) and from the support staff (nurses, pharmacists) who may be needed if doctors are to be as productive as possible. Finally, reliance on doctor-population ratios also tends to ignore issues of the

employability of the doctors who have been produced. All of these problems have characterised the history of policy with respect to medical training in India since 1947.

TABLE 6

SUPPLY OF DOCTORS

	1947	1951	1961	1971	1981
Medical colleges	22	30	57	95	106
Annual admissions	1983	2489	6446	12500	12500
Annual out-turn	959	1696	3900	10449	11500
(% female)			(22%)	(24%)	

Sources: Row 1 I.A.M.R., 1967; Rows 2 and 3 from Technical Manpower XVI, 9-10, 1974 with 1981 figures from World Health Statistics Annual 1983; Row 4 from I.A.M.R., 1967, using 1965 intake figures to estimate female outturn percentage in 1971.

Table 6 summarises the available data on the numbers of doctors trained and the expansion of medical colleges. The sources for these data are fairly straightforward. The main problems are posed by the establishment of medical colleges by private associations in the 1960's and 1970's, which gave rise to disputes about their standards and thus conflict over whether they 'really' existed. The further complication posed by the existence of medical colleges offering 'integrated' degrees - in **Ayurvedic** or **Unani** medicine but with substantial components of allopathic medicine - is sidestepped: these colleges are not included in the above totals.

The expansion of medical education took place in two main phases. Once the initial confusion of Partition had been overcome, a dozen new medical colleges were established by up-grading medical schools - the last being those in Madhya Pradesh in 1955. New medical colleges were also opened, in a steady trickle of three or four a year up to 1962. Then, during the war with China, the Armed Forces found great difficulty in recruiting

doctors on short-term contracts to supplement their own medical services. They called for a dramatic expansion in the number of medical students, and 46 medical colleges received Rs40 million in emergency central government funding to admit 2000 more students in 1963 than in 1962 (G.O.I.[C.C.H.], 1964:560). The M.C.I. was persuaded to consider reducing the length of an M.B. B.S. course, and it was forced to waive its norms on staff-student and bed-student ratios so that existing colleges could admit more students. In addition, 22 new medical colleges were opened in the four years 1962-65.

For all the formal insistence on international standards, it is clear that this rate of expansion was much faster than should have been permitted if the available number of medical educators had been a prime consideration. The Government had been aware of likely shortages immediately after the Second World War, and had established a scheme to send doctors abroad for higher training. In the four years 1945-48, 183 were sent at Government expense, and travelling fellowships were also provided for senior teachers (G.O.I.[C.P.H.B.], 1948:100-1). In addition, the U.S. Government, the Ford and Rockefeller Foundations, W.H.O. and the Colombo Plan have all provided fellowships, some of them specifically for medical education purposes.

By 1953 official policy was to discourage overseas training, and Mudaliar stated that it was time that India was self-sufficient, with A.I.I.M.S. to play a major role in achieving this (G.O.I.[C.C.H.], 1954). But, as the Secretary to the M.C.I. pointed out in 1958, the expansion of medical colleges called for 320 new teachers every year (G.O.I.[C.C.H.], 1959:41). Most medical colleges still depended on part-time teaching by local specialists, except in the pre-clinical posts. They found great difficulty in recruiting staff, especially where there was no possibility of private practice opportunities, as in the non-clinical departments. Thus in 1956 only one medical college was fully staffed in its Pathology Department, and there was a total

shortfall of over 1900 teaching staff (G.O.I.[C.C.H.], 1961:96). The Mudaliar committee estimated a shortage of 4400 teachers in 1960. In 1964 roughly 22% of all teaching posts were vacant, with 28% of pre-clinical posts empty (G.O.I., 1972:14-5). These shortages did not inhibit plans in the late 1960's to open new medical colleges, using the Mudaliar Committee's proposed 'norm' of one college for every 5 million population as justification. (G.O.I.[C.C.H.], 1969:119). Of all medical teaching posts in 1970, 18% were vacant, but the vacancies were not evenly spread - the Madhya Pradesh colleges were short of 363 teachers, (out of an unknown total) and it is difficult to understand quite how medical education was carried on in these circumstances.

The main solution to these shortages was to increase the pool of potential teachers by expanding post-graduate medical education. Some Departments in existing medical colleges were given extra funding to permit them to open courses at Master's level, and several of these received substantial amounts from the Rockefeller Foundation to train staff and to provide equipment. In addition, new post-graduate institutes were opened in Punjab (Chandigarh) and in Pondicherry as prestige institutes by politicians jealous of the pre-eminence of Delhi's A.I.I.M.S. Those in favour of the expansion of specialist training were able to point to the shortages of medical teachers and to use the argument that medical education in India should be available at all levels at the standards of Britain or America. Thus, a sub-committee on post-graduate education preparing a Perspective Plan for Health in 1962-3 managed to get the lion's share of the funds for education and training earmarked for post-graduate education (Rs750 million out of a total for all health workers of Rs1830 million) and to propose a Medical Education Grants Committe. This Committee would have had access to foreign exchange, clearly stated by the sub-committee as essential but inaccessible (G.O.I.[C.C.H.], 1964:570-4).

These recommendations were not implemented (partly because

of the collapse of the Planning system between 1965 and 1968), but there was a steady expansion in the number of places and scholarships for post-graduate students. By 1969, there were 6,000 places a year (as against 11,000 undergraduate places) - but only about 3,500 of them were taken up. This did not inhibit the expansion of post-graduate places by another 1,600 or so during the Fourth Plan (G.O.I., 1972:14). The apparent surplus of specialists in medicine and surgery, noted during the discussions preceding the Fifth Plan (G.O.I., 1971a: 25) finally led to a curb on the expansion of post-graduate education.

The issue of foreign standards was highlighted by the dilemmas posed by Indian doctors who travelled abroad to receive higher training (see Chapter 8). Here it is worth pointing to the attempt to encourage such doctors to return to India to fill empty teaching posts. From 1958 a 'pool' scheme had been in operation, by which doctors who returned received an honorary post and a salary while they looked for more permanent positions. This had very little appeal to doctors: those who came back to the pool often returned abroad again on the grounds that they were not being offered posts at the right level. Those who had received Indian training were often better placed to get higher posts (because of their contacts and sponsorship by Professors and politicians) and resented the attempts by those returned from abroad to leap over them. (G.O.I.[C.C.H.], 1967:40-1). In the mid 1970s the journal Technical Manpower reported around 10 doctors a month being offered places in this pool, of which only half took up the offer, so the contribution to the return of Indian doctors was fairly insignificant.

Control by the M.C.I. over the standards of medical education was made more difficult by the establishment of new 'private' medical colleges. Most medical colleges in India were founded by the State, with staffing and hospital provision all part of the normal State health budget. In a few cases (especially in Uttar Pradesh) the medical college was part of the

University, and thus funded by the State education budget (in Lucknow, Aligarh, and Varanasi). There are also private medical colleges, some Christian foundations (Ludhiana, Vellore), some established as part of medical nationalism before Independence and based on colleges of physicians and surgeons in Bombay and Calcutta, and some Municipal colleges in Maharashtra and Gujarat.

However, after Independence a new form of private medical college was established, with funds being subscribed to committees dominated by politicians, who expected to control admissions to the college both for financial and political rewards. Here admission was based largely on ability to pay, rather than on merit, and there was strong pressure to cut costs and standards in the interests of profitability. The Minister of Health from 1959-62, Karmakar, argued in favour of these colleges, saying that they would save Government funds. He also argued that such colleges should be permitted to start in a modest fashion and then be given time to improve, and that prominent medical men could be used as teachers even if they were not qualified to the level required by the M.C.I. During his time as Minister over Rs6 million was given to five private medical colleges in Andhra Pradesh, Karnataka, Bihar and Kerala (G.O.I.[C.C.H.], 1964:155). A committee set up by the new Health Minister, Sushila Nayar (who had been a physician to Mahatma Gandhi), reflected a shift of power towards the medical establishment. It reported in 1964 that no new colleges should be established and existing colleges should be taken over by the State, with Central Government assistance, to root out corruption and low standards. Nonetheless, she reported pressures on her from her Cabinet colleagues to open medical colleges in their areas - pressures which she managed to ignore (interview, 1976). But under her successors four more private medical colleges were opened in Bihar, and three in Uttar Pradesh, from 1969-72 (G.O.I.[C.C.H.], 1965:125-8). In fact, the Government decided that it would be too expensive to take all of them over, but official disapproval was reiterated in 1971 (G.O.I.[C.C.H.],

1972:4).

The M.C.I. is essentially unable to control this kind of college and its standards. The M.C.I. can inspect a college after it has been running for two years, and make recommendations, but only makes a final decision when the first graduates pass out. At that stage, it is the University degree which is recognised, not the individual college. If the college has gained affiliation to a University the M.C.I. has to threaten students from other affiliated colleges with non-recognition of their qualification as well. But by then it is too late, in practical political terms, to act: students can organise to ensure that their degrees will be recognised, and they have strong support from the political heavyweights on the college managing committees. Finally, it is not the M.C.I. which acts, but the Government of India which receives proposals from the M.C.I. which it is free to ignore. This has been the position since the 1933 Act was passed. When Rajkumari Amrit Kaur was Health Minister in the early 1950s she overruled the M.C.I. in its attempt to delay the recognition of the degrees of 5 medical colleges, and she retained this power when the M.C.I. Act was amended in 1956 (Lok Sabha Debates 10/12/56). When the M.C.I. attempted to withhold recognition to nine medical colleges in 1974, again the Government of India did not support it (Hindustan Times, 19 and 21/3/74).

The Guru Gobind Singh college, 'established' in Faridabad, just South of Delhi in 1971, was the most blatant example of political profiteering. The sponsors were responding to unmet demand for medical college places amongst the Delhi middle classes. The Government itself had broken its own resolve to open no new medical colleges by capitulating to student and parent pressure in 1971, forcing Delhi University to open a University medical college and then attaching it to one of the Central Government hospitals in New Delhi, Safdarjang. But the Faridabad college had no hospital facilities at all. The managing committee

were all relatives of the Congress Party's Chief Whip in the Punjab State Assembly, and the students went on hunger strike when the promised facilities did not materialise. The issue was resolved by the college moving (with all its paid-up students) to Faridkot in Punjab, and being allowed to continue in existence (Lok Sabha Debates 19/12/72; Hindustan Times 28/4/73). Since 1973 there have been no new medical colleges opened in this way, but proposals were made in 1984 to do so in Maharashtra.

Policy on medical education has thus not been entirely in the hands of doctors, despite the nominal power of the M.C.I. The subordination of the authority of the M.C.I. by politicians was probably going on in the 1960s, but did not surface into public debate. It also provided the manifest grounds for the General Medical Council in London to refuse to recognise degrees from most of the medical colleges established in India after 1947, and for the final break in 1975 when the G.M.C. decided that it would admit no Indian medical degree as sufficient evidence of competence for practice in Great Britain. The marketability of medical skills, both within India and abroad, has been maintained by the restrictions on the growth of medical education. But those restrictions have continually been challenged, and on several occasions successfully undermined, as a result of the returns available to those with medical qualifications.

PATTERNS OF EMPLOYMENT OF DOCTORS

There is really very little reliable information available on where doctors go, how they practise and what typical careers are like. One source which is frequently used is the 1971 Special Census of qualified personnel but this provides information on less than half of the total estimated number of doctors available in India at the time. There is no reasonable way of telling how this sample relates to the whole population, nor whether it includes or excludes some marginal practitioners (e.g. with 'integrated' degrees). In Table 7, I have therefore relied on

more indirect estimates of the total stock of doctors, and their distribution by employment category, and this represents the result of a complex set of assumptions.

To begin with, different authorities provide estimates of total stock which vary quite considerably, ranging from 51,000 to 56,000 in 1951, from 70,000 to 81,000 in 1961, and from 115,725 to 141,000 in 1971. In part these variations are a result of different methods and sources: for example, the M.C.I. provides estimates based on the numbers of doctors registered with it, but since no annual fee is payable, there is a tendency for doctors who have died or retired to remain on the list and M.C.I. estimates tend to be high. The attempts to estimate the effects of death, retirement and emigration have not produced clear agreement among the other providers of estimates (the Planning Commission, the Council for Scientific and Industrial Research, and the Institute for Applied Manpower Research). The figures in Table 7 thus represent an approximate average of the estimates which include doctors who may be abroad, but attempts to exclude doctors who have retired or died.

TABLE 7

DISTRIBUTION OF STOCK OF DOCTORS

	1944	1961	1968	1971	1974	1978
Public sector	13,000	29,000	39,000	43,000	45,000	50,000
Self employment	*	43,000	57,000	67,000	73,000	82,000
Private employment	*	*	6,000	7,000	8,000	9,000
Abroad	*	*	8,000	9,500	13,650	21,000
Rest	*	3,000	3,000	3,500	10,350	38,000
TOTAL	47,400	75,000	113,000	130,000	160,000	200,000

Sources: 1944 figures from G.O.I., 1946:12, referring to British India; 1961 figures from Mathur, 1971; 1968 figures from I.A.M.R., 1970; 1974 figures from I.A.M.R., 1974; 1978 figures from I.A.M.R., 1974, and Ramaiah and Bhandari, 1975.
Note: 'Rest' (Row 5) is a residual, including doctors who are attempting to establish private self-employment, practising part-time, in employment with pharmaceutical companies, in post-graduate training, temporarily out of the labour force, etc.

These estimates suggest that, despite some fluctuations, about 25-30% of doctors have been in public employment of one kind or another - Central, State, or local Government, E.S.I.S., Defence, Railways, Coal Mines and so on. In some places (such as Delhi) (Jeffery, 1976) the share has been much higher and I have assumed that most of those in 'genuinely rural' areas have also been in public employment. The most dramatic feature of Table 7 is the rise in the number of those in the residual category. I would not place great reliance on this figure, since the margins of error in the other categories are considerable (there seem to be no national figures even of employment in the public sector). It does seem unlikely that public sector employment, private sector employment and emigration have, together, risen fast enough to cope with the level of output of doctors since 1971. Most of these doctors are probable self-employed, at varying levels of income, along with the different elements of the residual. Since demand for medical education remains unabated, and there have been few accounts of serious unrest amongst the 'un-' or 'under-'employed doctors, it may be that the market for

medical services has been growing faster than the growth in national income. But there is little to suggest how this might have been happening, beyond isolated reports of an expansion of private qualified medical services in rural areas, reported from some States.

INDIGENOUS PRACTITIONERS

Policy with respect to indigenous practitioners has already been briefly discussed in Chapter 8. In general, policy has been restricted to issues concerning the formal education of practitioners, and the attempts to produce social closure of the category by making all future indigenous practitioners undergo training. The outcome of the battles between 'pure' and 'integrated' courses of training has probably been to slow down the growth in the number of indigenous medical colleges and schools, and in their intakes. Table 8 presents some indicators of the trends.

TABLE 8

SUPPLY OF INDIGENOUS MEDICAL PRACTITIONERS

	1962-3	1972-4	1977	
			I.S.M.	Homoeo-pathy
Practitioners:				
Qualified	30,000	50,000	130,000	20,000
Registered	87,000	150,000	142,000	74,000
Enlisted	?	?	?	51,000
In practice		200,000	?	?
TOTAL	?	**400,000**	?	
Colleges:	95	115	108	116
Annual Admissions:	1,375		4,199	?

Sources: 1962-3 figures from Brass, 1972:348; 1972-4 figures from Gwatkin, 1974:90 and Djukanovic and Mach, 1975:85; 1977 figures from G.O.I., 1979a:47, 53.

These numbers are not mutually compatible, since more seem to be added to the 'qualified' category than are trained every year. Some people probably are counted two or three times, because they are registered in more than one State (each of which has different rules); others are able to be registered on the basis of 'postal' education, usually in homoeopathic colleges, not listed here; and others may have found different ways of gaining access to the 'qualified' registers. The estimates of the total numbers in practice also vary according to the principle used. For example, the U.N.I.C.E.F./W.H.O. joint study quotes figures which are said to include (amongst the 200,000 untrained and unregistered) **dais** - but at 1 **dai** for every 1,000 people (the Government estimate in 1977) there would be 650,000 **dais.** Gwatkin grosses up the 1961 census estimate in order to produce his figure of 250-300,000 who would report themselves as practitioners, but notes that the Narangwal-based estimates would expand that figure many-fold. Finally, estimates of the proportion of the total who are 'qualified' vary from about 25-33% (Gwatkin, 1974:90; Chuttani et al., 1973:996). All these estimates depend critically on assumptions about who to include as a healer: those who are registered, qualified, financially dependent on practice, full- or part-time engaged in practice, or known locally as someone with particular expertise. If all these categories are included, the number of healers would be not less than 1.5-2 million.

Very little is known about the whereabouts or employment of indigenous practitioners from these different categories. Gwatkin (1974:90) reports one estimate for 1972 of 25% of 'certified' (qualified?) practitioners being in Government employment. This seems to be unduly high, generating a figure of about 20% of all Government doctors being 'integrated' or 'pure' indigenous graduates. Beyond Government employment, jobs seem to be scarce: other reports are concerned solely with those with their own clinics, or working from their own homes (e.g. Alexander and

Shivaswamy, 1971; Neumann et al., 1971).

CONCLUSION

In this chapter I have been concerned to trace out policy with respect to different categories of medical personnel, and the effects this has had in terms of the numbers trained and their employment conditions. In general, the introduction of grades similar to 'feldshers' and to community health workers, in the late 1970s, was not the result of new ideas, but rather of the combination of social forces which made it possible finally to implement old ones. These social forces were rural populism (personified by the Janata Health Minister, Raj Narain); international agencies; and the pressures for job improvements on the part of the employees of the erstwhile 'vertical' disease programmes. These changes have had different impacts on men and women: men have generally taken advantage of the new opportunities, and are establishing themselves as new kinds of healers, formal and informal. Women have been much less affected, either as nurses or as **dais**, and have usually been excluded from the positions of community health workers. The other major changes since 1947 have been twofold. Firstly, there is the loss of international recognition for Indian medical degrees, to a considerable extent because of the impotence of the I.M.C. in the face of political pressures to expand medical colleges and to turn a blind eye to those who ignore its regulations. Secondly, there has been the growing significance of the numbers of practitioners with some legal protection for their status outside the control of the Western medical profession, and the failure of the attempts to 'close' the occupation of medicine.

The implications of these changes are as follows. India now has an infrastructure of personnel which is in principle capable of implementing health policies in every village of India. Its peripheral workers should have supervision and support through a graded hierarchy of male and female workers who have received an

integrated training, able to deal effectively with some of the major health problems - environmental hygiene, infectious disease control, nutritional advice and support. However, the reality seems to be significantly different from this. There are potential difficulties caused by the employment of personnel trained according to very different medical theories, but we know nothing of how these work out in practice. But there are also problems posed by the ethos of working styles, organisational structures and political processes. I shall consider these in Chapter 10.

CHAPTER 10
STRUCTURE AND PROCESS IN HEALTH SERVICES

The purpose of this chapter is to look at how the health services have developed and the way they work. I will organise this chapter by taking different levels of health services and discussing their mode of working in the light of the most common criticisms, starting with the medical colleges and then hospitals, before looking at material which relates to the Primary Health Centre and its peripheral workers, and the way the 'clients' perceive what they are offered.

MEDICAL COLLEGES

The major criticisms of medical colleges revolve around their supposed inability to relate to the main health problems facing the average Indian. This is usually explained by the dominant ethos of college teaching staff, who are said to mimic the staff of British or American medical colleges. Those colleges are often accused of concentrating on hospital medicine, and within that, on unusual conditions: this does little to prepare the medical student for the everyday work of the general practitioner. Indian medical colleges are said to compound these problems of 'irrelevance' by focussing on the hospital medicine of Britain and America, thus doubly distancing themselves from the common problems of the mass of the Indian population.

It cannot be said that these issues have escaped the attention of the higher medical policy-makers, nor that of the Medical Council of India. However, as Chapter 9 has shown, the concern with 'maintaining international standards' has usually overwhelmed 'ensuring that doctors fit local conditions', as the Central Health Minister, Rajkumari Amrit Kaur, described the twin goals in 1954 (G.O.I. [C.C.H.], 1955). The presumption was that these two goals were compatible: as she said in 1956

> 'We must take full note of these developments [in the rest of the world] as well as our own special needs and then attempt to solve our problems in respect of medical education to suit the conditions prevailing in the country' (G.O.I. [C.C.H.] 1957)

The Medical Council of India has frequently revised the medical curriculum to stress the significance of 'social and preventive medicine' (S.P.M.), and to insist on periods of rural residence for 'interns' (who have completed their medical training but have to complete a year's experience for full registration) and, latterly, of medical students as well. Notably absent has been any sustained effort to ensure that these changes are implemented in the actual practice of medical colleges, or to monitor their impact. Similarly, there has been little attempt to change the views of medical educators, or in other ways to raise the status of staff in S.P.M. Departments or working in rural posts. In this section I will begin with the attempt to change the orientation of medical college students by the sponsorship of social medicine, before going on to look at rural 'exposure' and then the attitudes of medical college staff to these innovations.

SOCIAL AND PREVENTIVE MEDICINE

One of the earliest attempts to change the 'social orientation of medicine' in India came through the establishment of departments of social and preventive medicine. For example, in the Central Provincial Health Committee meeting of 1948 there was a report on a survey of medical education which revealed that

> 'the emphasis laid on the teaching of preventive medicine and public health is quite inadequate' (G.O.I. [C.P.H.C.] 1949:97).

Similar sentiments were repeated in the meetings of the Central Council of Health, in the speeches of Central Health Ministers or in the resolutions adopted. The Medical Education Conference held in Delhi in 1955 called for the strengthening of

departments of Preventive and Social Medicine, as a way of raising the prestige of preventive medicine in the health services generally, and these recommendations were turned into regulations of the Medical Council of India in 1961 (Taylor et al., 1976:7).

There were two main fallacies in the discussions. The first was in the claim that the cause of the low status of preventive work can be traced to the colonial heritage; and the second was the idea that this status could be raised by changes of a minor kind within medical curriculum but without changes in career opportunities and rewards for medical practitioners.

Throughout the world, the prestige rankings of medical specialisms seem to show a common pattern. General surgery and other surgical specialties are almost always near the top, while public health, social and community medicine, or the preclinical specialisms are usually at the bottom (Taylor et al, 1976). Indian medical students surveyed in the 1970's consistently ranked Preventive and Social Medicine at the bottom of a prestige hierarchy, and showed little interest or knowledge in, for example, Primary Health Care (Nichter, 1981:226; Ramalingaswami & Shyam, 1980). Madan (1980: 93) describes

> 'the received image of preventive and social medicine as a "soft choice", something that only the second-rate medical students specialise in'

which was held by most of the doctors he interviewed at the All-India Institute of Medical Sciences. Banerji (1974:2) argues that this is not merely a matter of 'image': when the new departments of social and preventive medicine were created after Indepencence the teaching positions were taken by 'discards', those who fell off the ladder to senior positions in more prestigious specialities. One indicator of the low status of social and preventive medicine is that in many medical colleges, posts are held by women, who often find access to medical and surgical specialities more difficult (Bhargava, 1983).

An exaggerated concern for curative specialties, in particular those with the masculine glamour of the 'activist' model of surgery (passive patients in a life-or-death situation, rescued by dramatic knife-work) is not restricted to India. However, it takes on an additional pathos in a context where 'generalist' skills are repeatedly called-for, in policy statements by politicians and senior medical bureaucrats, as the most pressing needs. Most doctors at the All-India Institute took the view that national concerns might require social and community medicine, but not all doctors should follow that model and that they, in an elite institution, should be the first to be exempted (Madan, 1980:94).

RURAL ORIENTATION

The 1955 medical education conference also called for the establishment of rural field practice areas attached to medical colleges, in order that undergraduates and interns would be exposed to rural conditions and health problems. It took the Medical Council of India nine years to respond by making three months of such experience mandatory for interns, and revised recommendations were drawn up in 1971 (Aggarwal et al., 1975:277-8). In 1961 only half the medical colleges had active rural internship programmes, and of the seven colleges in one study (drawn from those with 'better' programmes) only two had a full 3 month programme (Taylor et al., 1976:43). When Aggarwal et al. (1975:282-5) studied the situation in 1974, 60% of the 47 medical colleges who replied to their inquiry reported that rural internship lasted less than 2 months, with one-third reporting less than 1 month. Only three colleges were able to claim that they were following the objectives of the rural internship programme as defined by the Medical Council of India.

Following the Srivastava Committee report of 1975, proposals were again made to 'Re-Orient Medical Education (ROME)', and in

1978 medical colleges were each given responsibility for the health care services provided by three P.H.C.s. Money was provided under this scheme to build hostels for medical students to use while receiving rural orientation as part of their training. In most cases, responsibility for the P.H.C. and for rural training has been vested in the Departments of Social and Preventive Medicine. There have not been any consistent attempts to evaluate the progress of this scheme. In Orissa, at least, it would seem that there may be some difference in the way that the P.H.C.s are organised, since they have a resident Associate Professor from the Medical College, and occasional visits by the Professor of S.P.M. But in no case does the work of the P.H.C. figure largely in the training of undergraduates or of interns, most of whom never spend a night in the ROME hostels.

Two assumptions have underpinned these efforts. The first is that 'exposure' to rural conditions will lead to an awareness of rural problems and a desire to help solve them. The second has been that getting more doctors to work in rural areas is the best way to solve rural health problems, and that persuasion is a desirable way to achieve this, at almost any cost.

There have been some attempts to evaluate the effect of rural 'exposure' on orientation to rural work. The most sustained attempt, by Taylor and his colleagues (1976), was based on their experience and research linked to the Narangwal Project in Punjab, but drawing material also from Mysore (Karnataka) and other States. They argued that doctors were, if anything, given a negative orientation towards rural work from their medical college training. There was some evidence to suggest that views before rural 'exposure' were more favourably inclined towards rural work than afterwards, when the full extent of isolation and working conditions were made manifest. In general, since the dominant ethos of the medical college was based around urban hospital work it is unlikely that two or three months spent in a P.H.C. will make much difference.

The assumption that 'the medical problems of rural areas can be solved by increasing the number of doctors prepared to work there' is one which predates 1947. The discussion is set by an almost unchallenged further assumption that it is not possible to direct doctors to rural areas. No such direction exists, nor has it been tried, for non-medical personnel, and it was only regarded as a serious possibility under the terms of the National Service Act, passed in 1972. This Act provided that qualified people under the age of 30 would be liable to be called for up to four years to serve wherever required by the State. However, the Act has not been implemented, in spite of occasional threats to use it as a means to deal with the problems of filling empty rural posts. As a result of the refusal to consider compulsion, the only options open to the State have been financial incentives (positive and negative), career incentives, and the attempt to change the 'orientation' of the doctor towards rural life.

Positive financial incentives have been tried in a number of ways throughout the period, either to encourage private practice by paying a supplementary income or to encourage the acceptance of a rural posting by offering a rural allowance. More sophisticated proposals have involved additional educational allowances for a doctor's children. None of them can be demonstrated to have the slightest impact. Essentially, as has been pointed out many times, doctors are drawn from the urban middle and upper classes, and expect to live in a similar way when they have qualified. This means not just a sufficient income but access to social and physical infrastructure - such as electricity supply, sanitation, schooling, and so on. Inevitably, the rural areas will have a lower standard of such provision than the towns. The problem will not be solved, in the short-run, by raising the quality of rural amenities, since some of these are 'positional goods', which gain their value not from their intrinsic merit but because they are in short supply. Schooling is the prime example: it is not enough just to improve rural

schools, because urban schooling improves faster, and it is the differential advantages of elite schooling which count for getting ahead, and this seems to weigh very heavily with young married doctors. Additional pay can provide access to urban schooling only if the children are sent to the towns for their education, and this does not create the kind of willingness to accept rural conditions which is supposed to result.

Negative financial incentives have been restricted to the taking of 'bonds', in which medical students face the loss of quite substantial sums of money if they do not honour promises to work for the State Government in a rural posting for two or three years after graduating. These have rarely had any impact. Often, more doctors graduate each year than there are jobs in State employment in rural areas. There are also a number of escape clauses which allow most new doctors to avoid any financial penalty for not taking up jobs (which often do not exist) or to take up the post 'formally' but actually to avoid working in the rural areas at all, or for more than a very brief period.

Career incentives have also been tried, particularly by restricting access to post-graduate courses to those with rural experience, or preventing promotion for those without it. These constraints obviously only apply to those in Government service, and suggest something of the difficulties faced by administrators who attempt to control their medical personnel. There is no realistic assessment of the success of these barriers: many doctors cynically suggest that those with 'pull' can leap them with ease, and that only those without contacts suffer their full force, but evidence of a more substantial kind is lacking.

The vast majority of Indian doctors, then, leave medical colleges with a preference for clinical (rather than public health) work in urban settings, or abroad (rather than in rural posts). Given the record of doctors elsewhere in the world, it would be very surprising if matters were any different. Indeed,

the most surprising feature of the situation is that politicians and social scientists have continued with the view that some change in this orientation could be produced through exhortation or 'rural exposure'. In turning to look at the conditions of work in urban clinics and hospitals, I want to stress two more features of medical work: the nature of hospital power structures; and limitations to the autonomy of private clinical practice.

HOSPITALS

There have been very few sociological studies of the working of Indian hospitals. Two of these (Kirkpatrick, 1970; Minocha, 1974) focus on the nature of discrepancies between staff and patients in patterns of expectations, deriving much of their theoretical focus from American sociological discussions of doctor-patient relationships and the nature of 'sick' roles. In general, while doctors seem to want to approximate the kinds of social relationships with patients which characterise medical roles in Western Europe or North America, patients attempt to bring very different patterns of expectations to bear (see further below). The most pervasive of the patients' expectations relate to the attempt to turn the relationship into a more personal one (cf. Gould, 1965). Co-operation, flattery, or providing a financial inducement are all used to improve the quality of treatment received from doctors (Kirkpatrick, 1970:161). The financial payments may be open, such as consulting the surgeon or physician privately before attending the hospital, or by making it clear that successful treatment will be followed by a substantial **inam**, or 'voluntary gift' (Nathur, 1975). Or the payments may be covert, in the form of various kinds of bribes to ensure access to the hospital, particularly where private practice of hospital doctors is illegal.

Junior doctors seem to find these social processes unpalatable, complaining about 'illiterate, stupid, ignorant'

patients, and attempting to restrict their relationships to a formal, medical plane (Minocha, 1974:192-4; Mathur, 1975:100-9). More senior doctors, by repute, are more willing to become involved in these relationships, usually, it would seem, because they cream most of the financial or other benefits to themselves (Mathur, 1975:170-1; Venkataratnam, 1979:180). Junior hospital doctors thus find themselves subject to pressures both from patients and senior doctors which they are unable to affect. Their patients rightly assume that their treatment will be affected by the kind of relationship they have with the medical staff, but the junior doctors they usually see and can influence are not the ones who count. The senior medical staff obviously do adapt their working behaviour to financial and other pressures from patients, but expect their junior staff to obey unquestioningly while gaining very little from what are seen as 'unprofessional' activities (Venkataratnam, 1979:253).

This situation can be described as one where 'professional' values are adhered to, at least formally, by doctors, but in practice the structural conditions necessary to implement them are absent (Jeffery, 1977). While doctors have many of the formal trappings of professional organisation (a Medical Council, university-level entry, a privileged positions in State employment etc.) the State does not, in fact, guarantee professional privileges. Further, in the private sector, competition from 'outsiders' (indigenous practitioners, or unqualified competitors from within the Western mode) is fierce, leaving individual doctors subject to strong pressure to safeguard their incomes at the cost of their ethical codes. Thus doctors have no independent base from which alternatives to State employment might emerge to enforce changes in public sector employment conditions. There are, of course, private hospitals in the larger cities, and successful private clinics. But these are the exception, rather than the rule, and show little tendency to become the dominant mode of private practice.

It is difficult, then, to find any mechanisms by which medical autonomy is maintained, beyond the very narrow field of actual diagnosis. Decisions on hospital admission or different kinds of out-patient treatment seem to be very vulnerable to the personal characteristics of the patients. 'Extra-medical' concerns enter into the heart of the medical encounter, in part because career advancement or security is not under the control of doctors alone. Doctors have failed to stake out and protect a 'professional' sphere, and collegial control is insufficient to permit the development of collegial norms. The evidence for the extent of this is limited; but there are few who doubt the significance of wider political or financial interests in all the important occupational decisions. Within this 'taken-for-granted' understanding of the medical world it is difficult to show that a particular doctor was promoted because of the quality of his or her work, or where degree candidates were impartially examined. A widespread cynicism is one result, a cynicism which also affects those working in other Government positions, and it is those in Primary Health Centres that I will turn to now.

PRIMARY HEALTH CENTRES

The concept of the Primary Health Centre was first elaborated in the Report on health services in England produced by a committee under the chairmanship of Lord Dawson of Penn in 1920 (Dawson Report, 1920). It was not taken up in a substantial way in Britain until the 1960's, but the idea had already spread to other parts of the world, being discussed at a Far Eastern Conference on Medical Relief in 1938, at which India was represented. The Bhore Committee endorsed the idea of a basic unit of health service provision which would combine curative and preventive services, but it was 10 years later, under the Community Development Programme, that efforts were first made to establish such centres for each Community Development Block, with its population of about 80,000 people. The Bhore proposals had called for a P.H.C. for 20,000 population by 1966, but by that date many Blocks (now with populations nearer 100,000) had not

been provided with the basic P.H.C. facilities.

To begin with, the P.H.C. building was often merely a dispensary renamed, and most of the activities were indeed curative in focus; but as time has gone by, more and more staff have been added, more P.H.C.s have purpose-built facilities according to a national or State-wide design, and the focus of their activities has shifted to include family planning as one of the central tasks. The standard P.H.C. should have 6 beds for in-patients: more recently a quarter of all P.H.C.s have been designated 'up-graded', eventually to have 30 beds and attached specialist obstetricians and paediatricians. Originally each P.H.C. was to have 5 or 6 sub-centres attached, with a female health worker (A.N.M. or Trained Dai); current targets call for 12 or 13 sub-centres (1 for 8,000 people), as a step towards 20 or more (1 for 5,000 people, or 1 for 3,000 in tribal areas). The increasing problems of supervising such a large number of sub-centres has led to new proposals for the up-grading of some sub-centres, or the establishment of sub-P.H.C.s. In this way it is hoped that, perhaps by the year 2000, the population served by a P.H.C. will come down to about 20,000.

The most common criticisms of the P.H.C. programme have shifted somewhat since the first P.H.C.s were established in 1952. Four main sets of problems have been voiced in the Central Council of Health, or other national fora:

1. in the actual working of the P.H.C., clinical, curative concerns have predominated over the intended bias towards preventive work;

2. staff have been unwilling to work in P.H.C.s, leading to understaffing and/or poor motivation;

3. the balance of expenditures has been heavily towards salaries and wages, leaving very little for drugs, transport or maintenance; and

4. there is little or no evidence of 'people's participation' in the organisation of health services by P.H.C.s

and this is reflected in a general under-utilisation of facilities.

In addition, a fifth issue has been identified but is less often voiced in authoritative settings: the undesirable consequences for health services of their integration with family planning or contraceptive provisions.

Of these problems, the first two were identified as early as the 1959 Central Council of Health meeting, when two basic points were made: staff were unwilling to work at P.H.C.s; and there was a danger, as the Health Minister put it, that the P.H.C.s would "degenerate into glorified dispensaries" because they neglected preventive work (G.O.I. [C.C.H.] 1960:30,99-102). At the 1967 Central Council of Health the major problem was expressed in almost identical terms: a shortage of staff, caused by a reluctance of doctors and nurses to serve in these posts because of an absence of housing for them, poor schooling for their children, the absence of incentives for rural work and low pay scales in State Government Health Services (G.O.I. [C.C.H.] 1968:22). The concern to improve conditions for P.H.C. staff has, indeed, dominated all official discussions of the problems of P.H.C.s.

As staff have been appointed and the rate of vacancies declined, however, other problems have been highlighted in addition. In 1968 the Director-General of Health Services pointed again to the greater load of clinical work and the lack of attention to prevention (G.O.I. [C.C.H.] 1969:27). In 1969 the insufficient drugs and transport budgets were noted (G.O.I. [C.C.H.] 1970:110). However, only more recently has one point, made in 1959 by the Director-General of Health Services (Barkat Narain), been followed up: the argument that

> 'the people's participation is essential which can only be secured by the new methodology of approach - call it extension technique, health education or social education' (G.O.I. [C.C.H.] 1960:101).

It has been pointed out that the existing facilities are largely underused and that a major reason for this is the predominant way doctors work: they wait for patients to come to them, rather than attempting to take their services to the people.

In this section I will follow through these themes by looking at three 'levels' of P.H.C. work, dealing first with the Primary Health Centre itself (or the 'headquarters'), then with the work of field personnel - A.N.M.'s and male health workers, and finally with the newly-created categories of trained **dais** and Community Health Workers (or Volunteers, also known as Village Health Guides). Table 1 gives the basic information about the number of P.H.C.s and their sub-centres, as a way of setting the context for this discussion.

TABLE 1

ESTABLISHMENT OF PRIMARY HEALTH CENTRES

	1956	1961	1966	1969	1974	1978
No. of blocks	1564	3137	4724	5265	5123	5005
No. with PHCs	67	2565	4631	4909	5283	5400
(per cent)	4%	82%	98%	93%	103%	108%
No. of sub-centres		1649		22826	33509	38115
Drs. in post				5294		

Sources: G.O.I., 1979:19, 65; G.O.I. [C.C.H.] 1970:51
Note: data as at 31st March in each year. Comparable data are not available for each year.

At headquarters

The staffing at a P.H.C. has always focussed around a doctor. To begin with, one doctor was to be attached, but by 1956 planned staffing levels were increased, so that each P.H.C. was to be staffed by two doctors, one a generalist and one specialising in family planning. In 1978 it was decided that each P.H.C. should have a third medical officer, specifically to deal with the training of community health workers, and preferably a

graduate in one of the indigenous systems of medicine. However, these posts have taken a long time to be filled. As late as 1972, only about half the P.H.C.s had their full complement of doctors. On March 31st 1978, it would seem that 61 P.H.C.s had no doctor at all, 771 had only one doctor, and the remaining 4568 had two or more. There were 115 P.H.C.s still to be established, though some Blocks had more than one P.H.C. (G.O.I. 1979:66-7).

The P.H.C.s which are less fully staffed are, not surprisingly, the more remote and less well equipped ones. In a study which involved interviewing 39 P.H.C. medical officers in the early 1960s, in addition to inadequate salaries, poor living facilities, inadequate P.H.C.s and social isolation were reported as the most important obstacles to the recruitment of doctors for rural work (Takulia et al. 1967:49). In a study in central U.P. in 1971-2, P.H.C.s were classified into three categories, according to location (closeness to urban centres), facilities (electricity, water supply) and local amenities (schools, markets etc.)(Misra et al. 1981). The 19 most accessible P.H.C.s in their survey had 54 supervisory staff in post, whereas the 8 most remote ones had only 10 supervisors. There is, however, a distinction between 'in post' and 'present and working'. As Misra et al. point out, those posted to remote P.H.C.s may devote all their energies to achieving a transfer to a more desirable P.H.C., which means that they may visit the district or State headquarters for long periods to lobby or by other means persuade senior staff to change their posting. The manipulation of leave facilities, or the deputation of staff to other positions, are both means by which posts may be 'filled up' but staff may be almost permanently absent. A possibly extreme example, during the post-Emergency collapse of the family planning programme, is provided by a study in a P.H.C. in U.P. in 1977-78, when five members of staff spent 75% of their time absent or on personal business (Sutherland, 1978:42).

When staff are available, two things seem to be clear about

the work they do. Firstly, despite the emphasis given to public health, preventive and promotive functions in job descriptions, most time is spent on curative work. One study carried out in 1968 in Punjab and Mysore (Alexander et al. 1972:1852) weighted staff-time by salaries and estimated that about 60% of staff-time at the P.H.C. headquarters went on 'illness' services, 25% on family planning and 12% on the control of communicable diseases. The rest of the time was spent on maternal and child health, with no time spent on environmental health. In Takulia's study, P.H.C. doctors estimated a median of about 27% of their time spent on preventive activities, with half the doctors saying lack of interest was the main reason for spending little time on this work (1967:37-39).

Even within this clinical focus, the quality of care seems to be poor. 'Quality' is of course difficult to assess, and relatively few studies have produced more than anecdotal evidence. Most patients spend a very short time with the doctor; two studies at the end of the 1960s estimated the median time spent with the doctor at two minutes or less (Murthy and Parker, 1973; Seth, 1973). There is no reason to think that average times have risen since then. Sutherland (1978:37) reported that in a P.H.C. in Varanasi District (U.P.) in ante-natal consultations, woman were never weighed nor were haemoglobin levels determined; instruments were not sterilised and blood pressure was not always recorded. A number of other small-scale studies in the same P.H.C. demonstrated inappropriate prescribing, little or no advice given by the doctor, and a minimal level of care (ibid: 47).

One reason for 'poor quality' is probably the shortage of funds available with the P.H.C. staff for services to patients. Studies of the patterns of P.H.C. expenditure are rare. One, by Alexander et al. (1972:1852) estimated that 10% of total annual expenditures went on drugs for the headquarters and the sub-centres, 74% going on salaries and allowances for staff. Satpathy

(1978) estimated that of the total Chiraigaon P.H.C. budget of Rs332,000 in 1977, 85% went on salaries, leaving 9.4% for drugs, 1.4% for transport charges, and 4% on all other items. There is an interesting comparison with the pattern of expenditures on medical care for the population insured under the Employees Social Insurance Scheme; Singh (1984:28) reports that some 40% of this expenditure goes on 'medicines', which are the fastest-growing category of expenditure between 1975/6 and 1979/80.

The drugs budget for the population served by P.H.C.s has grown very slowly, having been fixed at Rs20,000 per P.H.C. in 1965 (Reddi, 1983:273), irrespective of its population or out-patient coverage. Since 1980 the budget has increased more rapidly, largely because of the sums allocated to an increasing number of sub-centres and to C.H.W.s. Thus, in 1983, a common annual drugs budget for a P.H.C. was Rs12,000, with a further Rs3,000 for each sub-centre and Rs600 for each C.H.W. In a 'standard' P.H.C. there would thus be a total drugs bill of Rs30,000 for 10 sub-centres, Rs60,000 for 100 C.H.W.s, as well as the Rs12,000 at headquarters, giving a total of Rs102,000, or about Rs1 per head of population nominally served per year. [Each person insured under the E.S.I. scheme receives, on average, medicines worth about Rs13 per year (Singh, 1984:28).] David & Narayana (1983:48-60) report that in Orissa, delays in the release of funds, in the acceptance of tenders, and in the placing of orders, combined with an excessively long list of permitted drugs and poor ordering and stocking arrangements, meant that few P.H.C.s had a drug supply which matched the demands on it. Reddi (1983:275-6), using material from Karnataka and Andhra Pradesh, gives a similar picture. Reports of P.H.C.s suggest that most prescriptions require the patient to purchase the drug from the market, because only a very small range of basic drugs is provided from P.H.C. stores. The only exception to this general pattern - and a very significant one - is that the drugs required for tubectomies or vasectomies are provided from a special allocation and patients do not normally have to buy drugs

themselves.

The second feature of P.H.C. work is that, because of its clinical focus, it reaches a relatively small proportion of its nominal clientele. As in other parts of the world, patients do not travel far to consult a doctor except in emergencies, or in chronic cases when patients may make very long trips (Ramachandran and Shastri 1983:185). Most of the patients attending a P.H.C. come from within 2 or 3 miles [80% or more in three studies cited by Takulia from the mid-1960's (1967:28)]. In a 'teaching' block associated with Banaras Hindu University (Chiraigaon) in the mid-1970s Marwah et al. (1978) estimated that no more than 7.3% of pregnancies more than 2 miles from the health centre were registered for ante-natal care, compared with about 25% below that distance. Staff find it difficult to travel far from the P.H.C. 'headquarters' to hold clinics in sub-centres or in more remote parts of the Block because they have inadequate vehicles and fuel allowances. Often doctors tour their Blocks, if at all, on their own cycles or motor-cycles. Once again, the main exception is that a special allocation for transport is made from incentive money for family planning sterilisations. A P.H.C. with a large number of sterilisations to its credit receives an additional allocation for transport costs.

Even within the population which does use the P.H.C., according to Banerji (1973:2263) the 'poor and the oppressed' are discriminated against. He suggests that these groups use the P.H.C. less than wealthier groups. Other sources suggest a different picture, in which use-rates may not vary very much by socio-economic background (e.g. Seal and Bose, 1973:64; Ramachandran and Shastri, 1983:181-3). However, there is little evidence about the kind of treatment received at the P.H.C. - the extent to which wealthier clients are able to 'jump' queues, receive longer attention from the doctor, or gain privileged access to the scarce drugs held in the P.H.C.

Field staff

As I discussed in Chapter 9, the male and female field staff have rather different histories, because the women were originally family planning personnel while the men were employed in the various 'vertical' campaigns (including family planning) before the 'multi-purpose' reforms of the late 1970s. I shall therefore deal with these two groups separately.

1.Male Staff

Prior to the introduction of the Multipurpose Worker scheme male health workers were organised in a bewildering range of positions. The various National Programmes (Malaria, Smallpox, Leprosy, T.B., Family Planning) all had separate hierarchies. In addition, there were school health workers, Sanitary Inspectors and subordinate public health staff. Each P.H.C. had a different group of field staff, depending on local conditions, historical accident, or State policy and provision, and these staff would be paid from different budget heads and on different pay scales. As a result of this complexity, the rationalisation into a multi-purpose system has not progressed smoothly, and in most States substantial income differences remain, and workers still tend to identify themselves with the single-purpose programme where they began (Narayana and Acharya, 1980:96).

The male health staff have not been the subject of much study, except for those in the Family Planning cadres (e.g. Elder, 1974; Misra et al., 1981). These accounts accord with that of Narayana and Acharya (1980:102-3) in suggesting little commitment to health and family planning work *per se*, but rather an economic orientation to work. In addition, these male para-medical workers are subject to conflicting lines of authority, with many of them naming four or more direct supervisors. However, they work very much on their own, with 75% saying that they meet a supervisor once a week or less often (ibid.:114-5). In

this context, 'supervision' tends to focus on an assessment of the written records kept by the worker. All his supervisors will request reports on their particular area of concern, and record-keeping has come to be a major use of time by these workers. Thus Alexander et al. (1972:1853) estimated that over 40% of expenditures could be regarded as 'administrative' (record-keeping, travel, liaison with other agencies etc.) and a further 17-20% 'non-productive' or 'personal'; unfortunately they do not classify this information by staff category or distinguish 'head-quarters' from 'field' operations.

A major issue in supervision is that of transfers and promotions. This is a well-established feature of the Indian bureaucracy at all levels, with frequent transfers explained as the only way to prevent a number of corrupt practices. But for these workers, a knowledge of the villages where they work may be crucial, so the system of transfers every three or four years militates against this. On the other hand, those able to stay for long periods usually do so with the help of local political influence, which may be unrelated to job performance.

The introduction of multi-purpose working was partly justified as a way of reducing the time spent travelling between villages, and so that any one visit could be used for several purposes. Most workers seem to welcome the chance to reduce the population they were expected to serve. However, while the family planning workers welcomed the chance tc add health duties to their work, the other workers were less happy about their increased family planning responsibilities (ibid.:132). Workers who 'motivate' a 'case' for sterilisation are expected tc spend a lot of time with that person, going with them to the operating site, to look after their needs and to make sure that they go through with the operation, and that the worker gets the credit for the 'motivation'. Since 1977 most sterilisations have been of women, and these are more often provided by female workers, so it is not clear how significant this has been in the everyday

working patterns of most male workers since then.

Male workers have a number of problems in their work, most notably with access to houses. In general, there has been resistance to aspects of public health work such as the collection of blood slides for malaria surveillance, or attempts to ensure complete coverage of immunizations. On occasion minority groups have resisted the entry of workers from other sections of the population: Muslims, under-represented in the health work-force, are most likely to restrict access. Some workers also face difficulties because they come from 'untouchable' origins (ibid.:126-7). But more general criticisms have focussed on the capacity of the workers to maintain their level of working at a sufficient level to produce results; Harrison's account of the problems of maintaining motivation and performance in malaria control has already been cited (1978). In general, these are the key workers in most preventive campaigns, and their achievements do not generate much confidence that these campaigns will now begin to overcome the limitations which have reduced their effectiveness so far.

2. Female Staff

The position with respect to female health staff is much simpler than for the men. Essentially there are two cadres of female staff - Auxiliary Nurse-Midwives and Lady Health Visitors - who were originally employed as either family planning or maternal and child health staff. Since reorganisation into a multi-purpose scheme, they have all been reclassified as Health Workers (previously A.N.M.s) and Assistants (previously L.H.V.s).

One early study of the work of A.N.M.s stressed several main points which have been frequently repeated. Reid (1969:1,55) argued that the range of duties expected was too vast; that it was impossible for the worker to cover the geographical area assigned to her and that the time spent in travelling was

disproportionate (about 25%); that the time spent on record-keeping (about 20%) seriously interfered with the time available for work; and that family planning work was the most difficult aspect of their jobs. The estimates of Alexander et al. (1972) cited above are in line with these figures.

An additional problem for these female workers is their vulnerability in rural settings. They complain most bitterly about housing provisions - not just their availability but their security - and the dangers of travelling unchaperoned from village to village (I.I.M., 1980). In many places they have the reputation of being 'loose women', and repute also suggests that they come under heavy sexual harrassment, from their superiors or from locals, if they are not protected by the presence of some male kinsmen or a husband.

Finally, these are the workers most seriously affected by the family planning campaigns. 'Motivation' of family planning 'cases' has always been a substantial element in their training and work, with varying importance at different times. It is overwhelmingly dominant during family planning 'drives' - around the time of 'camps' (when special operating facilities are established), during 1976-77, or during the annual one- or two-month periods of special family planning periods. Despite recent attempts to widen the job description to spend more time on maternal and child health, it remains true that the only criterion by which staff performance is seriously measured is their ability to provide sterilisation 'cases', and this is reflected in the amount of time and effort they spend in family planning work (I.I.M. 1980:97-108). Under the Congress Government of 1980 onwards, a number of health elements appeared in the 'New 20-Point Programme'. In the case of family planning, this meant that 'sterilisation achievements' for each unit had to be collected and checked and passed up the bureaucratic system so that one month's figures could be on the Prime Minister's desk by the 15th of the following month. No other national health

programme has the same kind of central surveillance. Village women are well aware of the significance of sterilisations to health workers, and as a result are cautious of becoming indebted to these staff and thus vulnerable to moral pressure to be sterilised (Jeffery et al. 1985).

Village-level personnel

Health departments had no 'village-level' personnel before 1977. Prior to this, under the Community Development Programme, Village Level Workers were supposed to be concerned with some health matters, though it seems that they concentrated on agricultural development. But they were not really 'village-based' in the way that term has come to be used. 'Village-level' now usually means that the person is a long-term resident in the area; has no more than part-time employment; is subject to some form of control by village institutions; is trained outside the framework of formal training institutions; and is without a marketable qualification. By contrast, the V.L.W. (and other health staff) are usually prevented from serving in their own village and are subject to regular transfers to prevent local identification and interests developing. The two categories of 'village-level' health personnel (in the recent usage) who were the focus of the 1977 policy were called community health workers and **dais**, and were organised in different ways and for different purposes, so I will deal with them separately.

i. Community Health Workers

Unlike all other health personnel, the C.H.V. was to be nominated by the village and the P.H.C. Medical Officer would merely select trainees from amongst those nominated. The successful candidates would then undergo a three-month training course, held at the P.H.C., when the trainees would receive a stipend of Rs200 per month. On successful completion of the course they would return to their own village. There they would

merely be paid Rs50 per month as a retainer or honorarium, and would be provided with drugs and dressings to the value of Rs50 per month. They would be expected to spend two to three hours per day in health-related activities, but would not be under the formal bureaucratic control of the District Medical Officer. Dismissal could only follow a formal request from the village, and this was discouraged by making the village institutions liable to pay the training stipend if they wanted a replacement. In general, the tasks to be carried out, and for which training was given, would be first aid, preventive medicine, and community hygiene (N.I.H.F.W., 1978:1-3).

The scheme was introduced in 741 P.H.C.s in 1977. Almost all Blocks were to have been included in the programme by the end of the Sixth Plan in March 1985. The programme has changed through time: sometimes in response to findings based on research carried out on the first Blocks covered, while other changes were introduced when Congress returned to power in Delhi and in most of the States in 1980. But the basic principles remain unchanged. The programme has been politically very sensitive, with doctors organised to oppose it on the grounds that it increased 'quackery' and exposed villagers to second-class services. Perhaps for this reason, there have been several social science research studies, so we know a fair amount of basic information about who the C.H.V.s are, how they were selected, and something about perceptions by health staff and others of their work. We are less well served with accounts of what the C.H.V.s usually do, nor what may be the major factors which affect this.

Most C.H.V.s are relatively young (the modal age-group is 20-29 in most studies, in line with the official guidelines) and with education to secondary school, with very few illiterates and only 30% or so with only primary schooling (N.I.H.F.W. 1978:Appendix V[c]). In the northern States of Bihar, U.P. and Punjab, a sizeable minority (17-25%) of the first two batches had some college education (ibid.). Most C.H.V.s are male, despite

the evidence from voluntary projects that women are better suited to the work, particularly in services for the priority categories of mothers and children (Hardiman, 1984). The percentage of women in the first two batches was 6%, with a regional variation from a high of 26% in West Bengal and surrounding Eastern States and no women at all in Rajasthan, one each in Haryana and Madhya Pradesh, and 4 (0.7%) in Uttar Pradesh (N.I.H.F.W. 1978:Appendix V[b]). Recruitment guidelines for later batches stressed more strongly the desirability of choosing more women.

The method of selection actually followed was radically different from the model outlined by the official documents, and demonstrates very clearly the nature of village level institutions and the political process in rural India. In principle, the village councillors (the **Panchayat**) were to nominate several candidates from each village, and the medical officers were to assess their suitability in choosing amongst them. In practice, matters were very different. In general **Panchayats** seemed to prefer to nominate only one candidate - the N.I.H.F.W. study (ibid:41) noted that 47% of the 299 C.H.W.s from the first two batches they studied said that there were no competitors for the post, and Narayan and Acharya (1980:176) found 62% of the 127 C.H.W.s in their study had had no competitors. It might be thought that the doctors would prefer to select the more appropriate candidate from a range of options, but it seems that the reverse is the case. Most doctors by now prefer a 'least-risks' option, insisting that the **Panchayat** comes up with only one name, on the grounds that the political problems posed for the doctor by unsuccessful applicants make the task of selection one the doctor would prefer to avoid. The politicisation of selection probably went farthest in West Bengal, where the Communist Party Government ensured that most candidates came from their own mass peasant organisations (Jobert, 1985:15). Far from the procedure being open, and involving villagers in discussion about the nature of the programme and the benefits of reliable candidates, in most places

it became merely a question of one more, minor, political favour to be distributed,

ii. **Dais**

By contrast with the interest shown in the Community Health Workers, there have been very few studies of the new schemes for training traditional birth attendants and integrating their work into that of the maternal and child health services. Narayana and Acharya (1980:134-64) report that the training was generally carried out in inaccessible language, and little more than a stress on cleanliness and hygiene was actually understood by the **dais** they interviewed. There was little evidence of any change in the everyday practices of the **dais**, and after the training was completed there has been little further support from the P.H.C. staff.

P.H.C. staff (especially the A.N.M.s) tend to use the trained **dai** as an intermediary with the village, to allow them to find ante-natal or potential family planning 'cases', but very few **dais** receive the kits or incentive payments to which they are entitled (Jeffery et al. 1985; Gandhi and Sapru, 1980).

HEALTH SERVICES: THE LAY PERSPECTIVE

How do different patients, or potential clients, understand the range of medical options open to them? Posing the question in this way helps to avoid some of the difficulties thrown up by asking about choices between medical systems, which is how this kind of question is sometimes framed. There has been a rather unproductive debate along these lines. Banerji (1981), and Djurfeldt and Lindberg (1975), have argued that where Western medicine is available, cheap, and of good quality, it will be invariably preferred, despite its inability to deal effectively with the major diseases of poverty. The continuance of indigenous

medicine, in this perspective, is a result of the inadequacies of Western medicine. By contrast, Nichter (1981) and Van der Veen (1981) have pointed to the continuities between the categories of indigenous medicine and those of everyday thought - with prime examples being the use of humoral concepts ('hot', 'cold', 'windy' etc.) in everyday discussions of the characteristics of climate, food, personality or body type. In addition, they point to the social context of indigenous therapy, which is usually more sensitive to local social norms than are Western-style clinics and hospitals. Thus Gould (1957) and Marriott (1956) note how important for most patients is a personal relationship with the healer - unlikely (and disliked by staff) in large urban institutions. Carstairs (1956), Khare (1963) and Marriott (1956) also point to contrasts in healing style, with indigenous healers more confident in prognosis, less dependent on detailed questioning for diagnosis, and more likely to refer to their personal qualities as a sign of the likely success of their treatment. Patterns of expectations derived from these models tend to be used as yardsticks to understand and evaluate Western medical practice, which tends to be very different.

Whatever else the discussion of this question in the past fifteen years has shown, it is that nobody (neither in India, nor elsewhere) 'chooses' a system of medicine, not for one episode of illness, nor for all forms of illness, nor for one kind of patient or another. The question is sometimes framed in that way in order to demonstrate the superior attractiveness to the Indian populace of one system or another, or to argue that those who 'choose' one system are more rational, educated or whatever than those who choose another. But research results using this approach have not produced clear-cut distinctions. Thus Madan's early study in Ghaziabad concluded that there were no significant differences between those expressing a 'preference' for Western over indigenous medicine, with respect to urban or rural origin, age, income, or education (1969:1483-4). He also notes that for some people, the most significant factor seems to be the free

availability of Western medical services for those with some form of occupational health insurance.

Leslie (1983) suggests that the layperson's search for therapy in India can be characterised as a pluralistic one, in which people guide their behaviour using sets of ideas which may appear logically incompatible (such as those of 'humoral balance' as well as a 'germ theory' of disease). Using this knowledge, which they often accept is incomplete, people have to act, and they do so in a pragmatic way. Specifically, they tend to assume that most events have more than one cause, and that different types of treatments may be appropriate to these different causes. The decision about who to consult, or what treatments to use, will be guided by the past history of patients, their relationships with different available healers, costs and other benefits involved in consultations, as well as by a theory about what 'causes' illnesses of this kind, and what 'treatments' are therefore most suited to treat them.

Thus very few people in India make an ideological commitment to a system of medicine. They may, as Djurfeldt and Lindberg (1975) suggest, make commitments to individual healers, who are seen as especially useful for particular patients. But these commitments are unlikely to depend on that healer's choice of therapies, nor will they necessarily be passed onto whoever replaces that healer. Many healers do not make rigid distinctions between therapies, making use of medicines from more than one system in conjunction, and most patients do the same. Furthermore, it is difficult tc trace out consistent patterns of 'hierarchies of resort', or tendencies to consult certain kinds of healers first and then others, for some illnesses or some patients. Gould (1957) described a pattern of consulting indigenous medicine for 'chronic, non-incapacitating dysfunctions' and Western medicine for 'acute, incapacitating' ones. But he himself later argued that this was too simple a model (Gould, 1965) and others have similarly found great

difficulty in linking diseases (as defined by Western medicine) to healing choices. This is not surprising, since diseases are mediated by social processes and perceived in social terms as illnesses, with social meanings already embedded in them. What is slightly more surprising is the evidence of a lack of fit between diagnosis and treatment: that illnesses may be seen as 'caused' by supernatural means but taken to 'somatic' healers, or vice versa (Kakar et al., 1972).

In general, then, someone consultating a practitioner does not necessarily accept the philosophical bases of the therapy he or she receives. This is true even for the most complete submissions to the moral authority of the healer, in hospital wards. Thus Minocha (1974:166-98) discusses the mismatch between patients and staff understandings of Western medicine. Patients often mistook diagnostic and curative procedures, queried the role of blood samples and the use of injections, and restricted the information they passed onto the doctor, especially about alternative remedies they had used or continued to take while in the hospital. Kirkpatrick (1976) describes patients who remain oriented to familial expectations rather than those of the hospital staff, and who explain their illness in terms of a diffuse variety of causes (based on **karma**) despite their willingness to undergo surgery.

Western medical facilities often ignore cultural guidelines in the way they treat patients, and this may mean that the 'healing process' is weakened, and patients fail to comply with 'doctor's orders'. Conversely, indigenous healers are much more closely in tune with cultural guidelines, and are better able to bring social and psychological forces into play to assist with healing - though there is no evidence that they are any better at getting patient compliance. But all systems of medical belief and practice tend to be seen as 'efficacious' - to produce expected results - and the conditions in which they are used make it almost impossible to allocate success or failure decisively to

the patterns of treatment chosen. In this sense, India is little different from anywhere else. Nonetheless, it seems likely that the balance of choices of healers and treatments will continue tc shift towards the Western-style. Western medicine has more money, and symbolic and practical official support, and ideological barriers to its use are weak. But this will not mean an end to medical pluralism, which in India (as elsewhere) seems to be well established (Leslie, 1983).

CONCLUSION

Since 1947, medical institutions have come under considerable pressure to orient towards the major health problems of the mass of the population in rural areas. In some measure they have responded to this pressure, notably in the establishment of single-disease control programmes, and in their management through a structure of P.H.C.s. However, they have failed to develop an ability to respond creatively to disease problems. Field staff have followed bureaucratic guidelines to do their work, but initiative has remained resolutely in the hands of the people at the top. In the case of malaria control, it meant that when the focus moved on, staff relaxed and malaria returned; in the case of smallpox,. it meant that only when external agencies took a direct interest did the programme meet its targets. Most junior staff follow a 'least-risk' strategy, filling their forms and keeping their noses clean, while collecting enough money and political credit to protect themselves against unwanted transfers.

None of the possible models for ensuring competent and motivated health activities are applicable in India. There is no political party structure which might provide a local watch on State officials to ensure that they carry out their jobs in a satisfactory manner. There is no 'professional' structure, using internalised norms to provide commitment. Senior staff may

attempt to employ a 'coercive' model, using supervision as a way of finding fault. It seems unlikely that this would be well suited to health work, but it is not consistently employed. Supervisors find their ability to implement this model constrained by the ability of junior staff to call upon political or financial resources to produce favourable support from higher in the system. The legitimacy of the senior staff is further undermined by the cynicism with which their motives and decisions are usually viewed. How far these conditions are likely to be changed by the 'new' models which underly current proposals, derived in part from experience in the voluntary sector, forms the subject of the final chapter.

CHAPTER 11

CONCLUSION: NEW DIRECTIONS IN HEALTH POLICY?

The picture I have painted so far is one of a Government aware of some of the key elements in appropriate health services for India, given its poverty and disease pattern, but making only stumbling attempts to move in the right directions. In this chapter I will look at some of the evidence of new appraoches to the health problems of India, and briefly contrast the situation in India with that of its near neighbour, Pakistan. I will conclude by assessing this case study in the light of the theories of the State outlined in the Introduction.

There are two kinds of 'new approaches' to health service delivery in India: innovatory schemes mostly outside the normal Government provisions; and the impact of 'new' thinking in Government, prompted partly by these 'voluntary sector' schemes but also by international agency support. I have already described the most eye-catching elements in the Government schemes - the introduction of Community Health Workers, the attempts to revitalise **dai** training schemes, and the shift from uni-purpose to multi-purpose health campaigns. Here I shall focus on the small-scale voluntary sector projects. Then I will describe the new patterns in health aid and the contrast between the Government programmes they support and the voluntary projects which nominally draw on the same understanding of the possibilities of health services.

There is obviously a watershed in thinking about health sector organisation, and the role of international aid, around 1970. The old orthodoxy saw the role of aid to assist in 'modernisation', and the transfer of institutions and technologies. 'Best practices' were regarded as universal, and the benefits would 'trickle down' to the mass of the population. Thus the focus was on big metropolitan hospitals, for example, in

the belief that patients from a wide surrounding regions would be referred there for specialised treatment. By 1975, a new orthodoxy was established: recognising the need to relate technology to economy and culture, it accepted that the existing pattern tended to restrict benefits to urban, relatively affluent groups, and it called for a new focus on primary care, on para-medical workers, on simplifying techniques for use in under-developed countries, and on spreading facilities to the mass of the population. There were calls to link population programmes more closely to maternal and child health programmes, to involve communities more closely in the planning and control of health services, and to recognise the value of indigenous practitioners. This was accompanied by moves to liberalise aid terms, increasing the grant element and reducing the tying of aid to foreign exchange provision (World Bank, 1975; O.D.M., 1975). None of this was very radical. In spite of an acceptance that the sources of ill-health could be found in social, political and economic arrangements as much as in environmental ones, the new arrangements nevertheless focussed on changing only the medical infra-structure. It is thus at least plausible that their impact on <u>health</u> may be marginal; but their impact on health sector aid policies has been more substantial.

The Janata Government in 1977 claimed credit for implementing a number of 'new' proposals which derived from plans made under the Congress Government. These policies have been continued by the new Congress government, if with less enthusiasm. Foreign assistance has supported this shift. It is arguable that key features of these 'new' approaches are their concern with 'people's participation', 'integration', and the use of auxiliary health workers. As I suggested in Chapter 10, 'people's participation' has been potentially on the agenda in discussions of primary health centres since 1960, but it has only become central (and more sophisticated) since 1977. This is reflected in titles like 'Health By the People' (Newell, 1975) or in phrases like 'putting the people's health into the people's

hands' (quoted in Jobert, 1985). In what follows I shall not discuss the theoretical case for the benefits of such a move, but instead, assuming that it is a 'good thing', ask a set of questions derived from a broader study of participation in rural development (Cohen and Uphoff, 1980). These are: what kind of participation is involved - in implementation or in decision-making? what are the socio-political orientations of the organisations offering participation - conservative or reformist? and what is the socio-political structure (homogenous or stratified) and context of the communities being offered participation?

'Integration' has also been a key word in discussions of health policy. The discussions in the 1950s and the 1960s related to the integration of curative and preventive care, at the level of the doctors, or the administrative structure; in the 1970s the focus was on the integration of the different preventive health campaigns, particularly for paramedical workers, who were later also offered some curative tasks. In both cases, however, integration has been restricted to health workers. The early attempt (under the Community Development Programme in the 1950s) to make health work part of the work of rural development is reckoned to have led to little health work, perhaps because most people do not place health high on their lists of priorities. The new projects tend to attempt integration with non-health development again, either as an opening into the village (by addressing the 'felt needs' of its members) or on the grounds that water supply, or poverty, are the main causes of ill-health which need to be addressed. I shall thus be concerned to distinguish the kinds of integration involved in the new projects.

The use of auxiliary health workers is a final element. In general, these are village level workers, drawn from the villages where they work. But projects have varied according to the minimum education they demanded, from none at all to several years of schooling. There are also ideological variations, from those committed to the use of untrained personnel as a way of

demystifying medicine, to those who see the virtues of auxiliaries only in the context of shortages of trained personnel.

VOLUNTARY SECTOR HEALTH PROJECTS

There is a large number of voluntary-sector health projects in India. Most of these are hospital or clinic-based, and differ from similar Government facilities only in the motivation of some of the staff (many of these are Christian or Hindu missions) or in the level of funding or staffing. But Rao (cited in Jobert, 1985) listed 50 which could be considered as 'new' in orientation in 1978. They are not equally distributed around the country. Pyle (1979) lists six in Maharashtra, four of which are also listed in the fourteen studies included by Faruqee and Johnson (1982). Other States with well-known projects include Tamil Nadu (R.U.H.S.A.), Punjab (Narangwal), Andhra Pradesh (Indo-Dutch Project), Rajasthan (Tilonia S.W.R.C.) and Madhya Pradesh (Project Poshak). They cover only a small proportion of the population: the six projects in Maharashtra covered only about 500,000 people, or about 1% of the State's population.

These projects vary considerably. Some are linked to the Government, so that five of the Maharashtrian schemes were jointly run, while others are entirely separate. Some derive much of their income from abroad, while others are more nearly self-financing. Some are designed for research (notably the Narangwal project in Punjab) and are well-documented, but others keep very few records. Some make 'people's participation' a central feature of their organisation (e.g. Jamkhed, in Maharashtra), while others (like Narangwal) have other central concerns. Some are attempting to integrate various kinds of health work (e.g. Narangwal), while others see health programmes as part of more general rural development (e.g. Tilonia).

Participation

a. In implementation or in decision-making?

In keeping with the varying backgrounds, these voluntary sector projects have had varying degrees of commitment to the three elements which I distinguished above. Thus participation in decision-making in Narangwal, in keeping with its research orientation, had very narrow limits. Thus Gwatkin et al. (1980:54-5) summarise the organisation as follows:

> 'Community leaders were consulted regularly during the project's execution, and community organisations provided support and assistance - buildings for village health and feeding centres, for example - and financial congtributions to the continued operation of project-initiated day-care centres. Principal responsibility, however, rested with the project leaders who determined what service would be provided, recruited and supervised project personnel, and covered well over 90% of project costs with funds raised from external sources.'

The project with the most contrasting emphasis is probably that at Jamkhed, where villages only participate in the programme if they are prepared to make fairly substantial inputs, and in return, their priorities affect the programme. Tubewells, farmers' associations and curative services have been provided at least in part because of village demands. In addition, by 1978 75% of costs were being met from local resources (Hardiman, 1984:131). Most of the other projects discussed have fallen between these two examples, or have involved even less local participation than in Narangwal. Thus in Padgha, Kasa and Miraj (three of the Maharashtra projects), services are delivered with no requirement of village inputs (Pyle, 1978:15-6). Similarly, the larger projects included by Faruqee and Johnson (1982:22-3) have limited participation to payment or the provision of some basic material resources. In several cases, the attempt to involve villages by creating 'health committees' which have been given no resources or power, has failed to produce any substantial effect (ibid.). In Tilonia, there is a mix: the staffing is by young professionals, who offer technical services

to villages for payment, but who have also created a network of social institutions with considerable local participation (Franda, 1979:162-3). Size, and the decisions of the dominant personnel in the project (usually charismatic 'founders') seem to determine the degree of participation involved; and participation in implementation seems to be dependent on participation in decision-making.

b. Socio-political orientation.

The organisations offering participation have predominantly a social reformist orientation. The more conservative organisations (missions, or those close to right-wing political parties like the Jan Sangh) have not tended to offer participation beyond the chance to become a patient. On the other hand, organisations with a more revolutionary outlook have not been involved with local, small-scale projects of this kind. The exception is that the Left Front Government in West Bengal, under its Communist Party (Marxist) leadership, has attempted to introduce its cadres into the Government health machinery through the Community Health Volunteer scheme (see above). There have been no reports of how much this policy has achived. Once again, the least reformist projects are those closest to the Government or with a research orientation. Thus Narangwal had no policy objectives beyond the health sphere; Project Poshak similarly was restricted to health and nutrition objectives. The Indo-Dutch Project in Andhra attempted to stimulate sufficient local change to allow the original organisers to withdraw leaving an operating institution behind them, though they were not successful in this (Faruqee and Johnson, 1982:68-9).

Other projects have attempted to produce changes in social organisation, either working through the local institutions (**Panchayats**) as in Maharashtra, or by effectively undermining them, by establishing alternative institutions. Both Tilonia and R.U.H.S.A. threaten local power-holders because they offer

alternative means of access to scarce public resources, such as loans and grants, predominantly in non-health spheres. But even the more narrowly health-based projects working with the **Panchayat** may have much wider effects. In Jamkhed, for example, **Panchayats** have been involved from the start, and they did not take much interest in the original proposals, seeing health issues as non-threatening. But successful village health workers have developed political support and provide the possibility of alternative perspectives on political issues (Pyle, 1979:16-7). The existence of political protection for these projects then becomes vital if they are to continue, despite the absence of revolutionary rhetoric or intent.

c. Local social structures.

Most projects are working in areas which are social and economically stratified, as is most of plains India. All the projects which have a reasonable degree of documentation are predominantly in these areas, and they are in States which are marked by considerable inequality. (None of them are in Kerala, for example.) The Palghar project in Maharashtra included 15 tribal villages, where inequalities are usually much less, but there seems to be little discussion of the impact this has had on project success in these areas. I shall discuss the wider social and political context of these schemes at the end of this chapter.

Integration

The degree of integration of services is as varied as for the indicators of participation. Almost all these projects have attempted some integration, except for four of the projects covered by Faruqee and Johnson (1982:18), which dealt only with nutritional inputs and had few contacts with the local primary health care services. For Narangwal, variations in integration set the experimental framework. For most projects, the

integration has been restricted to the health sphere. Narangwal offered the different experimental groups health, medical, nutrition and family planning services in different combinations. As in several of the Maharashtrian projects, the focus has been on maternal and child health services, because they are regarded as the most vulnerable sections of the population.

The most extensive integration is at projects like Jamkhed, R.U.H.S.A. and Tilonia, where health services are offered as part of a much broader package of assistance. Tilonia is not primarily a health project, though its health component is an important one, whereas Jamkhed and R.U.H.S.A. see general social development in terms more of its contribution to health goals. As the Aroles, project directors in Jamkhed, put it in 1975 (quoted in Hardiman, 1984:131):

> 'Local resources such as building, manpower and agriculture should be used to solve local health problems.'

The development of local resources is thus a health goal, but can take on a priority for the project in itself. It is these non-health developments which may have the greatest chance of affecting the health status, particularly of the poorest groups, and which may bring the most 'integrated' projects into conflict with powerful local groups and individuals.

Auxiliary personnel

Finally, the use of auxiliary personnel is a feature common to these projects, but with considerable variation in the type of personnel involved. In Narangwal, most of the experimental programmes were run with A.N.M.s and L.H.V.s or their equivalents as the lowest levels of auxiliary personnel, recruiting village women only for child care (creches). At the other extreme is Jamkhed, whose village health workers have usually been illiterate middle-aged women. Hardiman (1984:132) points out that this was not part of the original planning for Jamkhed: the

project founders had intended to use A.N.M.s until they discovered problems in recruiting and placing such women in the project villages. Pyle (1979:20-1) reports that several of the Maharashtrian projects discovered that village workers with less education performing better than educated ones; and almost all report better experience with women than with men. This is partly because the focus of many of these projects has been on maternal and child health.

The use of women of this kind, in part-time work with relatively little financial reward, is a feature common to most of the innovative projects. There are variations in the tasks they have been expected to perform: again, this seems to have developed through experimentation, with the addition of more tasks as workers have become more skilled. In Jamkhed, weekly discussions are used essentially as in-service training, to improve diagnostic and other skills. In general, projects have been able to entrust increasing responsibilities to these workers without any apparent loss of quality of care. However, it is in improving the coverage of services that village workers are usually reckoned to score heavily over workers who are more highly-trained and expensive, but have less local knowledge and fewer social contacts with the population to be served. Extensive home visits are basic elements which are almost impossible without a cheap, committed local worker, and projects without this kind of programme (such as Project Poshak) have reported low coverage and high drop-out rates (Faruqee and Johnson, 1982:28).

The results of these programmes, with their differing degrees and types of participation, integration, and use of auxiliary personnel, are interesting, though hardly clear-cut. Thus Narangwal was successful in making a considerable impact on local health indicators at relatively low cost, despite being a project narrowly defined in 'health' terms, with little local participation, considerable integration of health services but with little contact with wider development programmes, and

relying on well-motivated paramedicals not village health workers. This may be partly explained by the fact that Punjab has high mortality and morbidity indicators given its relative wealth, and such an approach might not be suitable in poorer parts of the country. The Jamkhed project, by contrast, also has had a considerable impact on health indicators, by a programme with very different emphases. Faruqee and Johnson (1982:44) conclude that programmes should be tailored to local conditions, and no one national model is likely to be suitable everywhere.

The other general conclusion frequently voiced is that these projects owe their success in considerable measure to the individuals who have founded them and committed themselves to them. In particular, this creates a spirit within the organisation which fosters much higher levels of commitment and achivement by the employees than is common in larger organisations, based on the enthusiasm of the directors and their face-to-face contact with the field workers. This has two major consequences: it becomes very difficult to expand the project beyond a relatively small area, one which one or two individuals can reasonable be said to cover; and any attempt to integrate these new proposals within formal bureaucratic structures are likely to be unsuccessful. Nonetheless, through direct example and through a change within international agencies, some attempts have been made to apply some of the insights from voluntary projects to Government operations. The main vehicle for introducing change has remained the additional funds made available by the Planning Commission, and since 1977 the major source of relatively 'free' funds has been through international aid, to which I now turn.

NEW PATTERNS IN AID

There are two features of more recent aid programmes which I will briefly discuss. The first relates to assistance (largely from U.N.I.C.E.F.) to the Integrated Child Development Scheme

(I.C.D.S.); and the second to the 'Area Development Programmes'.

The I.C.D.S. has now been in existence for about 10 years. It was designed as a pilot attempt to bring together the health services (under Ministries of Health) and nutrition support (under Ministries of Social Welfare and Education). Community Development Blocks included in the I.C.D.S. have an additional doctor attached to the P.H.C., and some additional paramedical staff, who work with Social Education Officers in monitoring the health and nutrition of the children who attend feeding centres run by **anganwadi** (courtyard) workers - who are village nutrition workers. I.C.D.S. Blocks can now be found in every District in India, and they have a higher level of funding than do 'ordinary' Blocks. However, problems of integration with health services remain, with the medical staff often having no real contact with their Social Welfare counterparts. Coverage with I.C.D.S. blocks is scheduled to expand steadily over the next few years, but the scheme does not have a high profile within the Health Ministry.

The first example of 'Area Development' in aid came in the first India Population Project (IPP-1) in six districts in U.P. and three in Karnataka in 1972. In that year the World Bank agreed to provide loans in 'social infrastructure' with substantial amounts going to water supply and sanitation projects ($70 millions being spent up to 1980) and in health and family planning. IPP-1 received its funding from the World Bank, amounting to $21 million in loans, and from the Swedish Government, of $11 million in grants. A further $12.5 million was provided by the Indian Government as counterpart funds. It was 'new' in that the project was much bigger than most previous ones. It focussed on rural health delivery, the training of nurses, improved management systems, and the integration of family planning with maternal and child health services. It was intended to operate as an example to the rest of the country. Relatively little has been published about the project, but it is clear that it has formed the basis of a document which lays down

guidelines for similar projects developed from 1977 onwards with other donor agencies and known as the Model Plan.

There are now five projects, at different stages of development, which follow the general pattern established by the Model Plan. Each project is expected to last 5 years, and depends on counterpart funds coming from the Government of India. One is part-funded by the Danish Government grant of $35 million in selected districts of Tamil Nadu and Madhya Pradesh; a second is part-funded by the U.N.F.P.A. in selected districts of Bihar and Rajasthan; a third, the Second India Populatien Project in parts of U.P. and A.P. is part-funded by the World Bank for $46 million in loans (originally the Swedish Government was to provide an additional $23 million in grants); a fourth is part-funded by the British Government in Orissa for $25 million; and the fifth is a project part-funded by U.S.A.I.D. in districts of five states (Gujarat, Haryana, Himachal Pradesh, Maharashtra and Punjab) for $33 million.

The projects share a common core, derived from the Model Plan, though they vary in detail. (For a comparison of three of these proposals see Table 1). The main principle of the Model Plan is to speed up the provision of services along the patterns laid down in the plans of the Ministry of Health and Family Welfare in New Delhi; this means concentrating expenditures on primary health in general, and on sub-centres (clinics manned by a female Multi-Purpose Worker/Auxiliary Nurse Midwife, 1 for 5000 population eventually) in particular.

TABLE 1

AREA DEVELOPMENT PROJECT PROPOSALS

CATEGORY	Tamil Nadu (Danida) %	5 States (U.S.A.I.D.) %	Orissa (U.K.) %
Administration	5	1	2
Construction	25	54	39
Maintenance and utilities	12	*	4
Supplies, equipment and drugs	12	7	16
Transport	*	3	6
Staff training, management etc.	11	8	3
Additional staff salaries	14	23	27
Nutrition	4	*	1
Communication & Media	4	2	1
Community Fund, Innovations etc.	11	4	1
TOTAL (Rs mill)	(144)	(518)	(295)
Donor share	88%	62%	62%

Sources: Strengthening Health Care and Family Welfare in two Districts of Tamil Nadu, mimeo, October 1980; Integrated Rural Health and Population Project = Project Paper, USAID, New Delhi, August 1980; Proposed Area Programme, Government of Orissa, mimeo, 1979.

* categories are not separately recorded.

Much of the money to be spent under these projects will go to the building of new sub-centres. Other funds will be spent on improving the multi-purpose worker training; on improving facilities at Primary Health Centres (e.g. with water supplies or new operation rooms and equipment); and on support to family welfare education through films and other simple audio-visual aids. The main categories of worker supported will thus be the lowest level - indigenous midwives, community health workers, and multipurpose workers. (However, the aid agencies are not funding the honoraria and supplies for the indigenous midwives and the C.H.V.s, which is part of the Government of India support.) Equipment support will be at a low level compared to salary, training and construction support.

Because of the common core to these proposals there are many similarities. However, there has been some acknowledgement of local variations, and differences in approach amongst the donor agencies, so that there are differences of emphasis between the different projects. Thus the Danish proposal stresses more community involvement than do the others; the British proposal allows for an extension to the rest of the State after a few years; and the American proposal stresses management training. All accept as a basic principle that what is needed is more (and better) of what is currently being provided.

In many respects, then, these projects are attempting to meet the criticisms outlined above, and to implement some of the lessons learned from voluntary projects. The bulk of the expenditure is available in local currency, to be spent on primary care, with a focus on training and employing female health workers, and to improve maternal and child health care. Nevertheless the limitations of the changes are also obvious. The only community involvement is in the selection of candidates for employment and training as community health workers and indigenous midwives. Local involvement in planning and executing the project is virtually non-existent, even in the Dutch

programme which has a 'community chest' to provide funding for elements of felt need which are not covered by the programme.

In addition, while integration of services is an important aspect of the proposals, there is some danger that it will be a very lop-sided integration. To begin with, these are purely 'health' programmes, with no measure of integration with other aspects of social development. (They do not even have any clear relationship with the I.C.D.S.) But secondly, despite the primary goal of the reduction of the high levels of maternal and infant morbidity and mortality, the services to be financed have in the past been used mainly for family planning purposes, and there are few mechanisms to ensure that they will not be suborned in this way in the future. These aspects of the World Bank-sponsored IPP-2 were the main butt of the criticisms which led to the Swedish Government withdrawing their proposed contribution, and lend some support to the claim by Banerji (1981) that the international agencies are lending their support to preparations for a return to greater compulsion in family planning work. This is too simplistic an analysis, because these donors have all expressed public commitments against elements of compulsion, and would be under considerable political pressure from domestic constituencies to withdraw support if compulsion were to be reintroduced. But the fact remains that they may be unable to ensure their views are heard once the projects are completed. In general, the Indian government has played a fairly forceful role in negotiating the terms for this assistance: the donor agencies have been forced to accept the terms on which they could offer assistance, and the withdrawal of the Swedish contribution suggests an inflexibility on the Indian side.

Finally, the projects have to depend on the existing health structure to deliver most of the services and manage the various programmes. As I argued above, two of the keys to success for the voluntary-sector projects have been the emphasis on coverage through home visits, and the significance of personal direction

by a committed leadership. Neither of these can be provided by the current Indian governmental structure, which has tended to accept the new resources as yet further means of fuelling a clientelistic structure - new jobs to be allocated, new contracts to be awarded, new benefits available to be offered to favoured villages or constituencies.

CONCLUSION

It is tempting to conclude, as the critics I discussed in the Introduction to Part B have done, that health policy in India is so closely dominated by national and international class interests that there is little scope for major change. However, I think this is too simplistic an analysis. In the first place, it ignores the very real achievements of Indian health policy. Health planning has shifted resources towards preventive medicine, rural areas and paramedical workers. Substantial preventive campaigns have been waged against malaria and smallpox. Large numbers of P.H.C.s and subcentres have been built and equipped, and staff have been appointed. In some parts of the country, some of them have worked fairly conscientiously, even if these have been the relatively favoured areas, and beneficiaries have been disproportionately drawn from the higher classes and castes. Paramedical staff may be trained and employed on the cheap, but their numbers have continued to rise, and they are now in place in numbers which mean that they could supply most of the population with something approaching a reasonable health service. Some of these services probably have helped to support the decline in levels of mortality, halting and uncertain though this has been.

Secondly, amongst the various legs which support class domination, health policies, health sector assistance, and even the operations of pharmaceuticals companies, do not have high priorities. More radical health sector proposals (like the nationalisation of drug production) are of course fought hard by

those whose interests would be directly affected. Further, changes in the local distribution of resources which might be needed if inequalities in health are to be overcome, or diseases of poverty are to be significantly reduced, will also be fiercely resisted. But very few health proposals come at all close to such radical ideas. The more notable features of Indian health policy are the extent to which it has shifted towards 'appropriate' models; and the role of factors internal to the Government and political party structure which have limited the implementation of even these relatively modest proposals.

But the Indian Government has been relatively successful in what it has achieved, if it is measured against those of its near neighbour, Pakistan, with which it shared its historical legacy. Prior to 1971 Pakistani health policy clearly allocated public sector health resources to West Pakistan at the cost of East Pakistan (now Bangladesh). In addition, per capita income levels in Pakistan have been very comparable to those in India. So reseource constraints have been at much the same levels. However, the Pakistani Government has shown much less ability to articulate a coherent health policy, or to shift resources towards those sectors which it has identified as priorities - such as preventive health campaigns using paramedical personnel in rural areas. As in India, allocations to health services in the Plans have been underspent, but have been at a lower level than expenditures for other social services (Shepperdson, 1981). In the Third Plan (1965-70) only 59% of the health allocation was spent, without taking account of inflation. In addition, within the health allocation, hospitals, and medical education have tended to take more than they were allocated, but this pattern was disrupted by the much bigger reversal in the malaria control programmes than in India. Rural health programmes have been allocated relatively little and have spent even less (ibid:13-14). Shepperdson notes that "the allocation of development funds continues to be mainly inconsistent with general policy objectives such as the aim to expand rural services rapidly"

(ibid:18).

The differentials in availability of health services are much higher in Pakistan than in India. Not only are there far fewer health personnel, the imbalance towards doctors is much greater; in 1974 there were more doctors (10,000) than almost all the other health personnel put together, with only dispensers (8,000) showing any similar figure. Similarly, there were only 130 rural health centres (1:500,000 population) and 400 sub-centres (1:150,000 population)(G.O.P., 1975:298). Since the mid-1970s allocations and expenditures for rural health programmes have begun to rise, in real terms and proportionately. New proposals, based on rural health centres for a population of about 100,000, have been introduced, but staffing levels in 1980 even in Punjab (a relatively wealthy Province) were very low (only 30% of doctors in post, for example)(A.D.B., 1981:50). Finally, Shepperdson notes that the massive differentials in health provisions from those for Government servants on the one hand to rural peasants on the other have not declined during the 1970s (1981:8; see also Jeffery, 1972).

Compared to the Pakistani experience, then, Indian achievements are considerable; compared to the ideals of the planners and proponents of the 'new perspectives', India comes off much less well. The explanations for these patterns seem to me to derive from features of the social organisation which are well captured by Alavi's discussion of levels of the State and the degree of their integration. It is possible to draw contrasts between 'tight' States and 'loose' ones, akin to Myrdal's distinction between hard and soft States. 'Tight' States are those in which there are consistencies among the different levels of the State, and integration is close. In these States, whether conservative (Iran, perhaps) or radical (China) the class interests which dominate the State are closely in accordance with the structural constraints in which they are set, and have a bureaucratic and political party system which responds to those

interests. 'Loose' States are those where integration is much less clear, and contrasting pressures are able to operated with some effect.

In India, the tightness of relationships between the levels is less than in Pakistan. This can be attributed to a number of decisions made by the Indian political elite soon after Independence - the creation of powerful Planning mechanisms, the retention of State control over aspects of the economy, the elimination of **zamindari** - and to features of Indian social organisation, such as the greater size and sophistication of the Indian capitalist class, and the more secure base of the Indian civil service. This has made possible a political party structure more democratic in its organisation than many others, with a diversity of parties and competition for local political resources.

Thus, while Indian decision-making has been centralised, it has not been consistent, or able to ignore the pressures for rural provisions which socialist and Gandhian rhetoric has helped to generate. Nor has it been unchanging. In the Introduction to Part B I noted the 'break' in Indian polity and economy around 1964-6, with the death of Nehru and the coming of Mrs Gandhi to power, and the crisis in Planning and the apparent downturn in industrial growth. In policy terms, the break can be seen (in retrospect) as a shift from 'top-down' socialism, to a populist, potentially authoritarian regime. In health policy terms, this has meant that the Planning Commission lost much of its centrality, and control over key aspects of policy (such as the numbers and 'quality' of medical colleges) has become much more difficult to assert. I have termed the socialism 'top-down' because, unlike Chinese communism, it involved no party structure at the village or ward level which could either transmit its demands up the political or bureaucratic structure, or act as the channel for ensuring that higher-level decisions were taken. It has been denigrated as 'Fabian', on the grounds that it was

largely a matter of the intellectual classes, with no popular roots. The absence of these roots made it vulnerable to the kind of changes which have largely overtaken politics since 1965: a populism which has been clearly at odds with the 'socialist' inheritance in a number of cases, with the C.H.V. scheme the most obvious example.

Thus in India, the thread which links these levels of the State is a clientelist political structure. The State has what coherence it receives from the flows of resources (usually called 'black' money) which move between capitalists, landlords and their dependents, political parties (especially Congress) and members of the Government machinery. These flows are essential for the maintenance of the party structure, but they are also the flows which ensure the protection of propertied classes. The C.H.V. who gains his job through patronage has to repay that patronage; the paramedical worker who wishes to get a favourable transfer must please local elites and accumulate financial resources which will eventually end up recycled through the political machinery; and the creation of rural resources is part of the currency of local politics, not the implementation of clear-sighted solutions to underlying problems.

The balance of these forces varies throughout the country. The contrasts between Bihar, where the levels seem most tightly linked, West Bengal and Kerala, where most separation is discernible, or Punjab and Haryana, where the situation seems most fluid, have been noted (e.g. by Nag, 1983). Kerala and West Bengal do have the makings of a localised party structure, based on ideological party commitments and drawing support from the poor and landless as well as the landed, though the effect on health services organisation and achievements is more marked in Kerala than in Bengal. If there are grounds for hope in the Indian experience, it is the possibility that such local social forces might be able to employ the resources which are finally arriving at village level.

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